



**NAMI'S
CERTIFICATION
PROGRAMS
PROCEDURAL GUIDE**

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PROCEDURAL GUIDELINES
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NAMI'S CERTIFICATION PROGRAMS PROCEDURAL GUIDELINES

National Accreditation and Management Institute, Incorporated (NAMI) provides quality assurance of products through an on-going validation process known as "certification". NAMI is responsible for developing and maintaining all of the certification schemes as defined in this procedural guide. The NAMI Certification Programs have been developed based on the parameters defined by ISO/IEC 17065, "Conformity Assessment-Requirements for Bodies Certifying Products, Processes and Services", and ISO/IEC 17020, "Conformity Assessment-Requirements for the Operation of Various Types of Bodies Performing Inspection". NAMI's address is:

National Accreditation and Management Institute, Incorporated
4794 George Washington Memorial Highway
Hayes, VA. 23072
Tel (804) 684-5124
Fax (804) 684-5122

Product manufacturers participating with the NAMI Certification Program manifests concern for the quality of the product and the overall performance of the product upon installation. Certification is the ultimate quality assurance method available for today's consumer.

All NAMI Certification Programs operate in accordance with the latest revision of the Federal Government's Department of Housing & Urban Development 24 CFR 200.935 and ISO/IEC 17065, "Conformity Assessment-Requirements for Bodies Certifying Products, Processes and Services", and ISO/IEC Guide 17020, "Conformity Assessment-Requirements for the Operation of Various Types of Bodies Performing Inspection". All inspection processes operates in accordance with ISO/IEC 17020, "General Criteria for the Operation of Various Types of Bodies Performing Inspection".

NAMI is accredited by the American National Standards Institute (ANSI) for Structural/Impact Certification Program, Exterior Door Systems Certification Program, Insulating Glass Certification Program and Fire Doors and Other Protective Openings. The scope of accreditation includes:

- 13 Environment. Health Protection. Safety
 - 13.220 Protection against fire
 - 13.220.50 Fire-resistance of building materials and elements
- 81 Glass and Ceramic Industries
 - 81.040 Glass
 - 81.040.20 Glass in buildings
- 91 Construction Materials and Building
 - 91.060 Elements of buildings
 - 91.060.50 Doors and windows
 - 91.100 Construction materials
 - 91.100.60 Thermal and sound insulating materials

NAMI is accredited by the National Fenestration Rating Council (NFRC) Thermal Certification Program and the Component Modeling Approach Product Certification Program. This program encompasses U Values, Solar Heat Gain, Visible Transmittance, Thermophysical Properties, Thermal Transmittance, and Solar Optical Properties for Fenestration Products and Fenestration Product Attachments.

NAMI is accredited by the International Accreditation Service (IAS) as a Type A (Third-Party) Inspection Body. Fields of inspection include: Building Envelope (windows, soffits, entry doors, skylights, impact protective shutters and glazing systems, mullion systems, curtain walls, wall louvers and glass block assemblies), Insulating Glass, Garage Doors, Pre-engineered air conditioner standard, Fire doors and other protective openings and for ICC-ES Acceptance Criteria AC304.

SECTION 1.0-INTRODUCTION

1.1 SCOPE

The NAMI Certification Program is intended to supply competent, non-discriminatory, equitable, impartial and continuous validation of a manufacturer's adherence to the standards as defined in these documents and compliance to ISO/IEC 17065, ISO/IEC 17020 and NFRC 700. Adherence by NAMI to these documents ensures impartiality of the operations of this certification body.

The NAMI program will require periodic testing, plant inspections, electronic surveillance, quality assurance review and labeling of products that have achieved certification approval. This procedural guide outlines the operating procedures and responsibilities of National Accreditation and Management Institute (hereinafter referred to as NAMI and the participating manufacturer (hereinafter referred to as Licensee).

1.2 PARTICIPATION

Any manufacturer whose activities fall within the standards as outlined within NAMI's Procedural Guidelines may request participation within the program. Access to the NAMI Program shall be non-discriminatory and shall not be conditional upon the size of the manufacturer's facility or production ability or the number of certifications or labels that it has already obtained from any other source. The manufacturer must enter into a license agreement with NAMI to conduct and perform all certification services. The agreement will remain in effect for a one year period and be automatically renewed for additional one year periods unless terminated in writing by the Licensee a minimum of sixty (60) days prior to contract termination. NAMI retains the right to not grant program re-enrollment to companies that have not complied with procedural guidelines or license agreement requirements in past enrollment periods.

1.3 CONFIDENTIALITY

NAMI shall maintain confidentiality on all test reports, inspection findings and data submitted for certification consideration. The only information that is provided to the public is listed in the NAMI Certified Products Listing (available at www.NAMICertification.com). The Licensee must grant permission to NAMI before any information is disseminated regarding a certified product. If legal issues should arise regarding a Licensee's product with regards to specification, testing, evaluation and/or certification, NAMI shall disclose any information relevant to the legal matter to the Licensee.

1.4 IMPARTIALITY STATEMENT

NAMI is committed to provide certification services and quality assurance reviews in an impartial, fair and objective manner. Certification is based on meeting defined performance standards in each program. Impartiality is maintained by NAMI through procedural fairness, transparency of processes and making known to Licensees the reasons behind any or all actions taken.

SECTION 2.0-OPERATION OF THE PROGRAM

2.1 PROGRAM OPERATION

NAMI's Certification Programs provide for equitable administration and shall confine its requirements, evaluations and decisions on certification to those matters specifically related to the scope of the certification being considered and/or granted through the use of the standards listed below.

It is common within the industry for standards and specification adoption years to overlap with older versions. All new testing should be performed to recognized specification and adoption dates. NAMI reserves the right to certify products to older standards based upon the requirement or requests of authorities having jurisdiction.

<u>Standard</u>		<u>Latest Revision Date</u>
<u>Windows/Sliding Glass Doors/Skylights</u>		
AAMA 450	Voluntary Performance Rating Method For Muller Fenestration Assemblies	2020
AAMA 506	Voluntary Specification for Impact and Cycle Testing of Fenestration Products	2023
AAMA 508	Voluntary Test Method and Specification for Pressure Equalized Rain Screen Wall Cladding Systems	2021
AAMA 509	Voluntary Test and Classification Method for Drained and Back Ventilated Rain Screen Wall Cladding Systems	2022
AAMA 510	Voluntary Guide Specification for Blast Hazard Mitigation for Fenestration Systems	2014
AAMA 517	Specification for Air/Water Penetration Resistance and Structural Load Performance of Multi-Track Doors and Windows	2025
AAMA 910	Voluntary "Life Cycle" Specifications and Test Methods for Architectural Grade Windows and Sliding Glass Doors	2024
AAMA 1003	Voluntary Standards for Interior Insulating Windows	2004

<u>Standard</u>		<u>Latest Revision Date</u>
AAMA 1701.2	Voluntary Standard for Utilization in Manufactured Housing for Primary Windows and Sliding Glass Doors	2017
AAMA 1702.2	Voluntary Standard for Utilization in Manufactured Housing for Swinging Exterior Passage Doors	2017
AAMA 1704	Voluntary Standard Egress Window Systems For Utilization in Manufactured Housing	2017
AAMA 1801	Voluntary Specification for the Acoustical Rating of Windows, Doors & Glazed Wall Sections	2021
AAMA 2410	Standard Practice for Installation of Windows With an Exterior Flush Fin Over an Existing Window Frame	2013
AAMA/NPEA/NSA 2100	Voluntary Specifications for Sunrooms	2022
AAMA/WDMA1600/I.S.7	Voluntary Specification for Skylights	2000
AAMA/WDMA/CSA 101/I.S.2/A440-22	Standard/Specification for Windows, Doors & Unit Skylights	2022
AAMA/WDMA/CSA 101/I.S.2/A440-17	Standard/Specification for Windows, Doors & Unit Skylights	2017
AAMA/WDMA/CSA 101/I.S.2/A440-11	Standard/Specification for Windows, Doors & Unit Skylights	2011
AAMA/WDMA/CSA 101/I.S.2/A440-08	Standard/Specification for Windows, Doors & Unit Skylights	2008
AAMA/WDMA/CSA	Standard/Specification for Windows, Doors	2005

<u>Standard</u>		<u>Latest Revision Date</u>
AAMA/WDMA NAFS-1-02	North American Fenestration Standards	2002
AAMA 1002	Voluntary Specifications for Secondary Storm Products for Windows and Sliding Glass Doors	2011
AAMA 1102	Voluntary Specifications for Side-Hinged Secondary Storm Doors	2011
ANSI/AAMA/NWDA 101/I.S.2	Voluntary Specification for Aluminum, Vinyl(PVC) and Wood Windows and Glass Doors	1997
AAMA 501	Methods of Test for Exterior Walls	2024
AAMA 501.1	Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure	2017
AAMA 501.4	Recommended Static Test Method for Evaluation Curtain Wall and Storefront Systems Subjected to Seismic and Wind Induced Interstory Drifts	2018
AAMA 501.6	Recommended Dynamic Test Method for Determining the Seismic Drift Causing Glass Fallout from a Wall System	2018
CSA A440	Window Standard	2000
CGSB 82.1	Sliding Glass Door Standard (CGSB-Canadian General Standards Boards)	1989
CSA A440.2	Energy Performance of Windows and Other Fenestration Systems	2022
ASTM E90	Test Method of Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions	2023

<u>Standard</u>		<u>Latest Revision Date</u>
ASTM E413	Classification for Rating Sound Insulation	2022
ASTM F588	Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact	2017(2023)
ASTM F842	Standard Test Methods for Measuring the Forced Entry Resistance of Sliding Door Assemblies, Excluding Glazing Impact	2017(2023)
ASTM E1332	Classification for Determination of Outdoor-Indoor Transmission Class	2022
ASTM E1425	Practice for Determining the Acoustical Performance of Exterior Windows & Doors	2014(2023)
ASTM F1642	Standard Test Method for Glazing and Glazing Systems Subject to Air blast Loadings	2017
ASTM E1748	Standard Test Method for Evaluating the Engagement Between Windows and Insect Screens as an Integral System	1995 (2017)
ASTM E1753	Standard Practice for Use of Qualitative Chemical Spot Test Kits for Detection of Lead In Dry Paint Films	2022
ASTM F2006	Standard Safety Specification for Window Fall Prevention Devices for Non-Emergency Escape (Egress) and Rescue (Ingress) Windows	2021
ASTM F2090	Standard Specification for Window Fall Prevention Devices With Emergency Escape (Egress) Release Mechanisms	2021
ASTM F2912	Standard Specification for Glazing and Glazing Systems Subject to Airblast Loadings	2025
ASTM F3561	Standard Test Method for Forced-Entry-Resistance of Fenestration Systems After Simulated Active Shooter Attack	2023

<u>Standard</u>		<u>Latest Revision Date</u>
ASTM B647	Standard Test Method for Indentation Hardness of Aluminum Alloys by Means of a Webster Hardness Gage	2023
GSA-TS01	Standard Test Method for Glazing and Window Systems Subject to Dynamic Overpressure Loadings	2003
ICC 500	ICC/NSSA Standard for the Design and Construction Of Storm Shelters	2023
UFC 4-010-01	DoD Minimum Antiterrorism Standards for Buildings, 8 October 2003-Tables 2-1 and 2-2 & Standard 10-Windows, Skylights and Glazed Doors	2024
24 CFR 3280.403/ 404/ 405	Standards for Windows and Sliding Glass Doors/ Egress Windows and Devices/ Swinging Exterior Passage Doors Used in Manufactured Homes	2014
UM-89	HUD Building Product Standards and Certification Program for Exterior Insulated Steel Door Systems	1993
UM-111	HUD Building Product Standards and Certification Program for Fenestration Products (Windows and Doors)	1998
AAMA 2502	Comparative Analysis Procedure for Window And Door Products	2024
ANSI Z97.1	American National Standard for Safety Glazing Materials Used in Buildings- Safety Performance Specifications And Methods of Tests	2020
UL 752	Standard for Safety – Bullet-Resisting Equipment	2023
AAMA 909	Voluntary Specification for Cycle Performance and Testing of Side-Hinged Door Multipoint Locking Hardware	2013

<u>Standard</u>		<u>Latest Revision Date</u>
ASTM E2395	Standard Specification for Voluntary Security Performance of Window and Door Assemblies with Glazing Impact	2021
<u>Florida Building Code</u>		
TAS 201	Impact Test Procedures	1994
TAS 202	Criteria for Testing Impact and Non-Impact Resistant Building Envelope Components Using Uniform Static Air Pressure	1994
<u>Standard</u>		<u>Latest Revision Date</u>
TAS 203	Criteria for Testing Products Subjected to Cyclic Pressure Loading	1994
TAS 100	Test Procedure for Wind and Wind Driven Rain Resistance Of Discontinuous Roof Systems	1995
<u>Lineals</u>		
AAMA 303	Voluntary Specifications for Poly (Vinyl Chloride)(PVC) Extrusion Profiles	2023
AAMA 305	Voluntary Specification for Fiberglass Reinforced Thermoset Profiles	2022
AAMA 308	Voluntary Specification for Cellular Poly-Vinyl Chloride (PVC) Exterior Profiles	2023
AAMA 309	Standard Specification for Classification of Rigid Thermoplastic/Cellulosic Composite Materials	2013
AAMA 310	Voluntary Specification for Reinforced Thermoplastic Fenestration Exterior Profile Extrusions	2023
AAMA 311	Voluntary Specification for Rigid Thermoplastic Cellulosic Composite Fenestration Exterior Profiles	2013
AAMA 613	Voluntary Performance Requirements and Test Procedures for Organic Coatings on Plastic Profiles	2020

<u>Standard</u>		<u>Latest Revision Date</u>
AAMA 614	Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Plastic Profiles	2020
AAMA 615	Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Plastic Profiles	2020
ASTM D4726	Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) Exterior-Profile Extrusions Used for Assembled Windows and Doors	2024
ASTM D2244	Standard Specification for Rigid Poly Vinyl Chloride (PVC) Exterior Profile Extrusions Used in Assembled Windows and Doors	2023
ASTM D4216	Standard Specification for Rigid Polyvinyl Chloride (PVC) and Related PVC and Chlorinated Polyvinyl Chloride (CPVC) Building Products Compounds	2022
ASTM E1613	Standard Test Method for Determination of Lead by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-EAS), Flame Atomic Absorption Spectrometry (FAAS), or Graphite Furnace Atomic Absorption Spectrometry (GFAAS) Techniques	2012
<u>Insulating Glass</u>		
ASTM E2188	Standard Test Method for Insulating Glass Unit Performance	2019
ASTM E2189	Standard Test Method for Testing Resistance to Fogging in Insulating Glass Units	2019
ASTM E2190	Standard Specification for Insulating Glass	2019
ASTM E2649	Standard Test Method for Determining Argon Concentration In Sealed Insulating Glass Units Using Spark Emission Spectroscopy	2020

<u>Standard</u>		<u>Latest Revision Date</u>
CAN/CGSB 12.8	Canadian General Standards Board Insulating Glass Units	2017(R2022)
ASTM E546	Standard Test Method for Frost/Dew Point Of Sealed Insulating Glass Units	2014(20)
ASTM C1036	Standard Specification for Flat Glass	2025
<u>Dade County Building Code Protocol</u>		
PA 201	Impact Test Procedures	1994
PA 202	Criteria for Testing Impact and Non-Impact Resistant Building Envelope Components Using Uniform Static Air Pressure	1994
PA 203	Criteria for Testing Products Subjected to Cyclic Pressure Loading	1994
<u>ASTM Impact</u>		
ASTM E1886	Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Missile(s) & Exposed to Cyclic Pressure Differential	2019
ASTM E1996	Standard Specification for Performance of Exterior, Walls, Doors, and Storm Shutters Impacted by Windborne Debris	2023
<u>Side-Hinged Exterior Doors</u>		
AAMA 920	Specification for Operating Cycle Performance Of Side-Hinged Exterior Door Systems	2022
AAMA 925	Specification for Determining the Vertical Loading Resistance of Side-Hinged Door Leaves	2022
AAMA 1304	Voluntary Specification for Forced Entry Resistance of Side-Hinged Door Systems	2018

<u>Standard</u>		<u>Latest Revision Date</u>
ANSI/WMA 100	Structural Performance Ratings of Side-Hinged Exterior Door Systems and Procedures for Component Substitution	2013
ANSI A250.13	Testing and Rating of Severe Windstorm Resistance Components for Swinging Door Assemblies	2014
<p>The standards listed below are typical ASTM test methodologies that are found in the structural standards above. They include, but are not limited to:</p>		
ASTM E283	Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls And Doors Under Specified Pressure Difference	2019M-19
ASTM E330	Test Method for Structural Performance of Exterior Windows, Curtain Walls and Door by Uniform Static Air Pressure Difference	2014M-21
ASTM E331	Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference	2000(2023)
ASTM F476	Standard Test Method for Security of Swinging Door Assemblies	2023
ASTM E547	Test Method for Water Penetration of Exterior Windows, Curtain Walls and Door by Uniform Static Air Pressure Difference	2000(2024)
ASTM E987	Standard Test methods for Deglazing Force of Fenestration Products	1988(2024)
<u>Garage Doors</u>		
DASMA 108	Standard Method for Testing Sectional Garage Doors: Determination of Structural Performance Under Uniform Static Air Pressure Difference	2017

<u>Standard</u>		<u>Latest Revision Date</u>
DASMA 109	Standard Method for Testing Garage Doors: Determination of Life Cycling Performance	2017
DASMA 115	Standard Method for Testing Sectional Garage Doors and Rolling Doors: Determination of Structural Performance under Missile Impact Cyclic Wind Pressure	2017
DASMA 116	Standard for Section Interfaces on Residential Garage Door Systems	2018
<u>Installation</u>		
ASTM E2112	Standard Practice for Installation of Exterior Windows, Doors and Skylights	2023
<u>NFRC</u>		
ANSI/NFRC 100	Procedures for Determining Fenestration Product U-Factors	2023-E0A3
NFRC 101	Procedures for Determining Thermo-physical Properties of Materials for Use in NFRC Approved Software Programs	2023-E0A18
NFRC 102	Procedures for Measuring the Steady-State Thermal Transmittance of Fenestration Systems	2023-E0A1
ANSI/NFRC 200	Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence	2023-E0A4
NFRC 201	Interim Standard Test Method for Measuring the Solar Heat Gain Coefficient of Fenestration Systems Using Calorimetry Hot Box Methods	2023-E0A0
ANSI/NFRC 202	Procedure for Determining Translucent Fenestration Product Visible Transmittance at Normal Incidence	2023-E0A0

<u>Standard</u>		<u>Latest Revision Date</u>
NFRC 203	Procedure for Determining Visible Transmittance of Tubular Daylighting Devices	2023-E0A0
<u>Standard</u>		<u>Latest Revision Date</u>
	of Glazing Materials and Systems	
NFRC 301	Standard Test Method for Emittance of Specular Surfaces using Spectrometric Measurements	2023-E0A0
NFRC 302	Verification Program for Optical Spectral Data	2023-E0A0
NFRC 303	Creating a Laminate in Optics for NFRC	2023-E0A0
NFRC 304	Creating an Applied Film Layer in Optics for NFRC	2023-E0A0
NFRC 400	Procedure for Determining Fenestration Product Air Leakage	2023-E0A1
ANSI/NFRC 500	Procedure for Determining Fenestration Product Condensation Index Values	2023-E0A3
NFRC 501	User Guide to the Procedure for Determining Fenestration Product Resistance Values	2023-E0A0
NFRC 600	Glossary and Terminology	2020-E0A1
NFRC 601	NFRC Unit and Measurement Policy	2020-E1A0
NFRC 700	Product Certification Program	2024-E0A1
NFRC 701	Laboratory Accreditation Program	2025-E0A0
NFRC 701.01	NFRC Simulation Laboratory Application	2025-E0A0
NFRC 701.02	NFRC Testing Laboratory Application	2025 E0A0
NFRC 701.03	NFRC Simulation Reporting Requirements	2025-E0A0
NFRC 701.04	NFRC 102 Thermal Test Reporting Requirements	2025 E0A0

<u>Standard</u>		<u>Latest Revision Date</u>
NFRC 701.05	NFRC 201 Solar Calorimeter Test Reporting Requirements	2025 E0A0
NFRC 701.06	ANSI/NFRC 400 Air Leakage Test Reporting Requirements	2025 E0A0
NFRC 701.07	NFRC 500 Condensation Resistance & Index Test Reporting Requirements	2025 E0A0
NFRC 701.08	NFRC Simulation Laboratory Accreditation Requirements	2025 E0A0
NFRC 701.09	NFRC Testing Laboratory Accreditation Requirements	2025 E0A0
NFRC 701.10	ANSI/NFRC 202, ANSI/NFRC 203 Visible Transmittance Test Reporting Requirements	2025 E0A0
NFRC 701.11	NFRC Laboratory Recognition for Air Leakage Testing	2025-E0A0
NFRC 702	Certification Agency Program	2021-E1A0
NFRC 703	Research Program Manual	2024-E0A0
NFRC 704	Fee Schedule for Product Certification Program (PCP) Certification Agency Program (CAP) Laboratory Accreditation Program (LAP), Component Modeling Approach (CMA) and Participation in IG Certification Program	2023-E0A0
NFRC 705	Component Modeling Approach Product Certification Program	2024-E0A0
NFRC 706	Requirements for Participating Insulating Glass Certification Programs	2024-E0A0
NFRC 707	Compliance and Monitoring Manual	2022-E0A0
NFRC 708	Calculation Entity Approval Program Document	2025-E0A0
NFRC 714	Challenges and Appeals Procedures	2021-E0A0

<u>Standard</u>		<u>Latest Revision Date</u>
NFRC 715	Commercial Energy Performance Certification Program	2024-E0A1
NFRC 716	NFRC Certified Simulator Program	2024 E0A1
NFRC 7018	NFRC Labeling and Mark Usage Requirements	2024-E0A0
NFRC 7019	PCP Extension and Waiver Process	2024-E0A1
NFRC 901	Guidelines to Estimate the Effects of Fenestration On Heating	2020-E1A0
	<u>FIRE</u>	
CAN/ULC S104	Standard Method of Fire Tests of Door Assemblies	2015(R2021)
ISO 3008	Fire-resistance tests – Door and shutter assemblies	2019
ISO 3009	Fire-resistance tests – Elements of building construction - Glazed Elements	2003
NFPA 80	Standard for Fire Doors and Other Protective Openings	2025
NFPA 252	Standard Methods of Fire Tests of Door Assemblies	2022
NFPA 257	Standard on Fire Test for Window and Glass Block Assemblies	2022
UBC 1997	Uniform Building Code	1997
UL 9	UL Standard for Safety Fire Tests of Window Assemblies	2024
UL 10A	UL Standard for Tin-Clad Fire Doors	2022
UL 10B	UL Standard for Safety Fire Tests of Door Assemblies	2024
UL 10C	Positive Pressure Fire Tests of Door Assemblies	2021
UL 793	Automatically Operated Roof Vents for Smoke and Heat	2020
UL 1784	Air Leakage Tests of Door Assemblies	2025

<u>Standard</u>		<u>Latest Revision Date</u>
NFPA 105	Standard for the Installation of Smoke Door Assemblies and Other Protective Openings	2025
Chapter 7A (SFM)	Materials and Construction Methods For Exterior Wildfire Exposure	2009
CAL WUI Products	California Department of Forestry and Fire Protection Office of the State Fire Marshall Wildlife Urban Interface (WUI) Products	2021
Chapter 12-7A-1	Materials and Construction Methods for Exterior Wildfire Exposure	2024
ASTM E84	Standard Test Method for Surface Burning Characteristics of Building Materials	2024
UL 723	Test for Surface Burning Characteristics of Building Materials	2023
ASTM E119	Standard Test Methods for Fire Tests of Building Construction And Materials	2024
	<u>GENERAL</u>	
ASB RG CBAP	SCC Requirements and Guidance for the Product, Process and Service Certification Body Accreditation Program	09/21/2021

2.2 LICENSE AGREEMENT

- 2.2.1 Upon expressing interest in the NAMI Program, a potential licensee must complete a NAMI Program Application. The application will provide NAMI with the legal company name(s) and the type of program they are seeking certification or inspection services for. NAMI will forward formal licensing documents to the potential licensee upon receipt of the application.
- 2.2.2 To formally enroll, the manufacturer will enter into a License Agreement with NAMI to perform the certification services as described within this procedural guide. The agreement will remain in effect for a one year period unless terminated in writing by a manufacturer a minimum of sixty (60) days prior to contract termination. NAMI shall have the right to terminate the license agreement prior to an expiration date for:
- Non-payment of licensing or labeling fees;
 - Licensee's non-compliance to correct deficiencies found during inspection or any other manner;
 - Improper or unauthorized use of Label or Certification Mark;
 - Licensee's non-compliance with any terms of the license agreement or procedural guide
- 2.2.3 A list of NAMI approved independent testing laboratories is available at:

www.NAMICertification.com

2.3 ACCREDITED INDEPENDENT LABORATORY CONDUCTS TEST

- 2.3.1 NAMI requires third-party accreditation for an independent testing laboratory. An approved independent testing laboratory must be accredited by an agency that meets ISO/IEC 17011, "Calibration and Testing Laboratory Accreditation Systems-General Requirements for Operation and Recognition". The laboratory must provide documented evidence of laboratory compliance to ISO/IEC 17025 or appear in the accrediting entities formal listing of approved laboratories. For the NFRC program, the simulator or testing laboratory must be approved by NFRC and appear in the NFRC Approved Simulator/Laboratory listing.
- 2.3.2 If a licensee transfers in from an existing certification program, NAMI will recognize their test data as long as the certification program that they are transferring from was recognized by ANSI or IAS. Since ANSI and IAS oversee the certification bodies and their approval of test facilities, NAMI will accept the licensee's testing based on that premise. Any further testing for the NAMI program must be done in accordance with Section 2.3.1 of the NAMI Procedural Guide and requires ISO/IEC 17025 accreditation.
- 2.3.3 All testing shall be performed in accordance with the applicable standard to which certification is being sought.
- 2.3.4 Upon completion of testing, the licensee or laboratory shall forward the completed test report to NAMI (electronic submission preferred). The report must contain the full description, test data and the laboratory stamped extrusion drawings, assembly drawings and bills of material.
- 2.3.5 All testing costs are borne by the licensee.
- 2.3.6 NAMI reserves the right to require re-testing and/or witness the retest on any product considered for certification if any questions arise regarding the test. All testing costs are borne by the licensee.

2.4 IA AUTHORIZES CERTIFICATION

- 2.4.1 NAMI is responsible for decisions relating to granting, maintaining, extending, suspending and withdrawing certification (see applicable program Appendix for each program's parameters).
- 2.4.2 NAMI shall review copies of the test report, detail and assembly drawings and bills of material for completeness and accuracy. Test report findings are reviewed for compliance to the applicable standard.
- 2.4.3 Upon compliance, NAMI shall notify the Licensee of acceptability with a "Notice of Product Certification" (NPC) or a Certification Authorization Report (CAR) (NFRC Programs only) which authorizes the product's listing in the NAMI Certified Products Listing (www.Namicertification.com) or NFRC's official database (www.nfrc.org).
- 2.4.4 All test reports will be reviewed for compliance to the applicable standard and/or specification as outlined within the NAMI Procedural Guide.
- 2.4.5 NAMI shall be responsible for, and shall retain authority for, its decisions relating to certification. The granting of certification will be performed by the program Administrator.
- 2.4.6 Certification is based and granted on the compliance of the product to the applicable test specifications and all other requirements as outlined within this procedural guide.

2.5 IA MAKES IN-PLANT INSPECTIONS

- 2.5.1. With or without prior notice, a NAMI Inspector will visit the Licensee's place or places of manufacture, assembly or shipment of certified products to determine continuing compliance with the requirements of the program.
- 2.5.2 Inspections will be performed by NAMI personnel different from the person that granted the certification.
- 2.5.3 The Licensee shall notify NAMI of scheduled dates of plant closing.
- 2.5.4 Licensee must provide an inspector contact at each facility to assist the Inspector to perform his duties in a safe and efficient manner. Complete access must be permitted within the facility where certified products are manufactured, assembled or stored and quality control records are maintained. Consideration will be given to accommodate the rescheduling of inspections with the understanding that additional travel expenses will be incurred and invoiced. Licensee's refusal to allow access to places essential for inspection, without cause, will be reason to deny product certification authorization or revocation of initial product certification authorization.
- 2.5.5 The inspector will review product compliance to the standard(s), test report, engineering equivalency documents, extrusion assembly drawings, and bills of material. Other information reviewed during the inspection process will include the:
 - a. Quality Assurance Program
 - b. Documented evidence of quality assurance program
 - c. Vendor confirmation (same vendors as defined on bills of material)
 - d. Product component parts
 - e. Finished product
 - f. Certification labels on hand
 - g. Gas filling invoices

- 2.5.6 The inspector will have available during the inspection, copies of NAMI's Procedural Guidelines, test reports, engineering equivalency documents, drawings and relevant data. The inspector will also distribute information for any new Technical Interpretations or changes to the overall program operation to the Licensee.
- 2.5.7 Inspections will be performed in accordance with ISO/IEC 17020, "General criteria for the operation of various types of bodies performing inspection".
- 2.5.8 "Inspection Review Forms" will be completed by the NAMI Inspector. The data recorded is of a proprietary nature and is only used as the basic reference material for issuance of the formal Inspection Report. Within (10) days of the inspection, a copy of the Inspection Report will be forwarded to the Licensee.
- 2.5.9 The "Inspection Report" will contain the following information:
- a. Designated Inspection Report Number;
 - b. Licensee's name, plant location and assigned code;
 - c. Inspection date;
 - d. Inspector's name;
 - e. Licensee's representative's name;
 - f. Series/Model and designated certification number of each product inspected;
 - g. Discrepancies requiring corrective action;
 - h. Quality assurance finding;
 - i. Action to be taken by Licensee;
 - j. Product required to undergo re-qualification or production line testing.
 - k. Calibration dates of the inspector's equipment used during the inspection process.
- 2.5.10 The Inspection Report will also outline any findings of the program or product non-compliance. The Licensee shall notify NAMI of the proposed corrections in writing within the allowable time period commencing with the date of receipt of the inspection report as follows:
- a. Fifteen (15) Business Days: Defects or deviations which would have negative impact on the performance results from that of the test sample. Labels may NOT be applied until corrections have been made and approved by NAMI.
 - b. Thirty (30) Days: Minor defects or deviations which do not render the product inoperative or unsafe. Labels may continue to be applied.
- 2.5.11 If notice of corrective action is not received by NAMI within the specified time period, NAMI shall make the necessary attempts, as deemed appropriate by the Administrator, with the Licensee to rectify the non-compliance. If the Licensee fails to respond with a solution that is acceptable to NAMI, the Administrator shall reserve the right to place the Licensee into a "suspension" status. An email shall be sent to the Licensee stating that the Licensee is in violation with the terms, as set forth in the NAMI License Agreement and the NAMI Procedural Guide. Services and/or declarations of compliance to Authorities having Jurisdiction (AHJ) may be withheld or rescinded, as deemed appropriate by the Administrator.
- 2.5.12 If notice of corrective action is not received by NAMI within the specified time period, or a test report of the sample with the modifications is not received, NAMI shall make the necessary attempts, as deemed appropriate by the Administrator, with the Licensee to rectify the non-compliance. If the Licensee fails to respond with a solution that is acceptable to NAMI, a certified letter with a "Notice of Product De-Listing" will be issued to the Licensee or the Licensee shall be in violation with the terms, as set forth in the NAMI License Agreement, and shall be disenrolled from program participation.

- 2.5.13 Upon receipt of the “Notice of Product De-Listing” or “disenrollment notification”, the “Notice of Product Certification” and all certification labels for the designated product must be forwarded to NAMI. NAMI will use ISO/IEC 17030, “Guidelines for corrective action to be taken by a certification body in the event of misuse of its mark of conformity”.

2.6 ELECTRONIC SURVEILLANCE

- 2.6.1 NAMI has the option to perform an inspection through electronic surveillance. The Licensee will be notified prior to an electronic surveillance and define the appropriate computer hardware and software to conduct the surveillance. If cameras are required during the surveillance, the Licensee will be notified in advance so appropriate electronic devices can be obtained.
- 2.6.2 The Inspector, who will conduct the electronic surveillance, will set up a date and time (during normal business hours) to conduct the surveillance. Prior to the surveillance, the inspector will review the documents that the licensee should have ready to present during the surveillance process.
- 2.6.3 Electronic surveillance is conducted to determine continuing compliance with the requirements of the NAMI program.
- 2.6.4 The inspection will be performed by NAMI personnel different from the person that granted certification.
- 2.6.5 The inspector will review program compliance through the use of, but not limited to, the following documents:
- a. Quality assurance manual;
 - b. Documented evidence of quality assurance program;
 - c. Vendor confirmation (same vendors as defined on bills of material);
 - d. Documented evidence of finished product review forms;
 - e. Documented evidence of all forms used and maintained by facility;
 - f. Certification labels on hand (if applicable);
 - g. Certification mark;
 - h. Gas filling invoices (if applicable).
- 2.6.6 The inspector will have available during the inspection, copies of NAMI’s Procedural Guidelines and all pertinent data relevant to the Licensee and the certified product. The inspector will also distribute information for any new technical interpretations or changes to the overall program operation to the Licensee.
- 2.6.7 Inspections will be performed in accordance with ISO/IEC 17020, “General criteria for the operation of various types of bodies performing inspection”.
- 2.6.8 An “Inspection Review Form” will be completed by the NAMI Inspector. The data recorded is of a proprietary nature and is only used as the basic reference material for issuance of the formal Inspection Report. Within (10) days of the inspection, a copy of the Inspection Report will be forwarded to the Licensee.
- 2.6.9 The “Inspection Report” will contain the following information:
- a. Designated Inspection Report Number
 - b. Licensee’s name, plant location and assigned code
 - c. Inspection date
 - d. Inspector’s name

- e. Licensee's representative's name
 - f. Series/Model and designated certification number of each product reviewed
 - g. Discrepancies requiring corrective action
 - h. Quality assurance finding
 - i. Action to be taken by Licensee
 - j. Product required to undergo re-qualification or production line testing
- 2.6.10 The Inspection Report will also outline any findings of program or product non-compliance. The Licensee shall notify NAMI of the proposed corrections in writing within the allowable time period commencing with the date of receipt of the inspection report as follows:
- a. Fifteen (15) Business Days: Defects or deviations which would have negative impact on the performance results from that of the test sample. Labels may NOT be applied until corrections have been made and approved by NAMI.
 - b. Thirty (30) Days: Minor defects or deviations which do not render the product inoperative or unsafe. Labels may continue to be applied.
- 2.6.11 If notice of corrective action is not received by NAMI within the specified time period, or a test report of the sample with the modifications is not received, NAMI shall make the necessary attempts, as deemed appropriate by the Administrator, with the Licensee to rectify the non-compliance. If the Licensee fails to respond with a solution that is acceptable to NAMI, a certified letter with a "Notice of Product De-Listing" will be issued to the Licensee or the Licensee shall be in violation with the terms as set forth in the NAMI License Agreement and shall be disenrolled from program participation.
- 2.6.12 Upon receipt of the "Notice of Product De-Listing" or "disenrollment notification", the "Notice of Product Certification" and all certification labels for the designated product must be forwarded to NAMI. NAMI will use ISO/IEC 17030, "Guidelines for corrective action to be taken by a certification body in the event of misuse of its mark of conformity".

2.7 WAIVER OF RETEST

- 2.7.1 A Licensee may apply for a "Waiver of Retest" in the case of modifications to the certified product which would not affect the performance of the product. A fee is associated with this review and request. (See NAMI Additional Services-Fee Schedule)
- 2.7.2 A "Waiver of Retest" form must be completed by the Licensee, along with all supportive data (including any engineering evaluations or calculations) to prove equivalency to the originally tested certified product. The Licensee must supply the original drawings and the drawings reflecting the proposed modification, reasoning behind request, any engineering evaluations or calculations, or additional test data to support equivalency to the originally tested certified product. Verification of conformance to appropriate industry material standards may also be required.
- 2.7.3 "Waiver of Retest" are granted in accordance with industry recognized standards, interpretations and engineering design rules. It is the responsibility of the Licensee to prove that the modification is equivalent or greater. NAMI reserves the right to request additional information, independent engineering evaluations or testing criteria to approve a "Waiver of Retest".
- 2.7.4 Certified products which cannot qualify for a "Waiver of Retest" must be tested to the applicable specification in order to maintain certification status.

2.8 PRODUCT VARIATION

- 2.8.1 A Licensee may apply for a “Product Variation” in the case of modifications to the certified product which would affect the performance of the product to be different from the originally certified product. A fee is associated with this review and request. (See NAMI Additional Services-Fee Schedule)
- 2.8.2 A “Product Variation” form must be completed by the Licensee, along with all supportive data (including any engineering evaluations and calculations) to prove the difference of the rating to the originally tested certified product. The Licensee must supply the original drawings and the drawings showing the modification, any engineering evaluations or calculations, or additional test data to support the variation to the originally tested certified product. Verification of conformance to appropriate industry material standards may also be required.
- 2.8.3 A “Product Variation” is granted in accordance with industry recognized standards, interpretations and engineering design rules. It is the responsibility of the Licensee to prove that the variation is different from the originally certified product. NAMI reserves the right to request additional information, independent engineering evaluations or testing criteria to approve a “Product Variation”.
- 2.8.4 Certified products which cannot qualify for a “Product Variation” must be tested to the applicable specification in order to maintain certification status.

2.9 CERTIFICATION LABELING

- 2.9.1 Upon issuance of approved certification status, the licensee has the ability to label the approved certified product. The licensee cannot claim approved certification status unless the product bears a NAMI approved certification label.
- 2.9.2 NAMI Certification Mark is a registered certification mark with the U.S. Patent Trademark Office. All certification labels must be ordered through NAMI or through a NAMI approved printing agreement. If specific identifiers are required in addition to the NAMI Certification Mark, the letters “US” shall be directly imposed to the bottom right of the NAMI Certification Mark at the 4 o’clock position for United States products.
- 2.9.3 NAMI Certification Mark is a registered certification mark with the Canadian Intellectual Property Office. If specific identifiers are required in addition to the NAMI Certification Mark, the letter “C” shall be used in conjunction and directly imposed on the bottom left of the NAMI Certification Mark at the 8 o’clock position for Canadian products, and the letters “US” shall be directly imposed to the bottom right of the NAMI Certification Mark at the 4 o’clock position for United States products.
- 2.9.4 The permanent certification label supplied by NAMI provides consumers with traceability of the manufacturing location. Labels must be applied at the manufacturing location. Special written permission from NAMI is required if a label is to be applied at any location other than the manufacturing facility.
- 2.9.5 Labels must be applied on the certified product where it can be read when the product is either in an open and/or closed position. The product is not considered a certified product if a certification label is placed in an area that would require the product to be disassembled or uninstalled to read it.
- 2.9.6 The certification label or the certification mark shall only be applied to products authorized for NAMI Certification.

- 2.9.7 The Licensee, by affixing the certification label, is stipulating that the product is representative of the test specimen that was evaluated and certified.
- 2.9.8 Any product bearing a certification label that is not in compliance and/or has not been authorized for certification is subject up to a \$100.00 per label fine from NAMI.

2.10 RE-QUALIFICATION TESTING

- 2.10.1 NAMI retains the right to request re-qualification testing at any time for any certified product listed within a certification program.
- 2.10.2 Requalification testing for structural, impact and fire programs is only required if the testing standard has significantly changed or is no longer recognized by authorities having jurisdiction, a product modification cannot be approved through a Waiver of Retest or Product Variation, and/or but not limited to, test results or laboratory credentials are questioned.
- 2.10.3 Specific programs require re-qualification testing. See the applicable appendix for details. When re-qualification testing is required, the Licensee shall follow the requirements set forth in Section 2.3.
- 2.10.4 Manufactured housing and egress window systems for use in manufactured housing in requires product line units to be selected on an annual basis. See Appendix G for manufacturing housing requirements.
- 2.10.5 Products that are qualifying for HUD UM 111, must undergo the certification process as described within the NAMI Procedural Guidelines.
- 2.10.6 Licensees must complete a NAMI application, specifying the HUD UM 111 certification program.
- 2.10.7 Two inspections are required each year for products that have been identified for HUD UM 111.
- 2.10.8 NAMI Certification labels must reflect a manufacturer's statement of conformance to HUD UM 111, the manufacturer's name and plant location. Upon placing a label order with NAMI, confirm which products that have been identified for this program.

2.11 EXTENSIONS

- 2.11.1 NAMI grants extensions based on the reasoning that continuous inspections have been performed to verify that no changes or unauthorized modifications have been made to the product during the period of certification at the Licensee's manufacturing locations. Due to this process, after the maximum four year period of the original certified product, an extension can be requested by the Licensee. An extension can be requested for up to a ten (10) year period after the initial certification period. (See Fee Schedule-Additional Services for cost associated with this request.)
- 2.11.2 If a new Licensee provides a test report that has expired or close to expiration, and proof can be provided that the product has been inspected by another recognized certification agency, certification will be granted for a maximum period of four (4) years.

- 2.11.3 If an enrolled licensee provides a test report that has expired or close to expiration, and they are a licensee in good standing, they may apply for an extension on the report. Extensions will be granted based on the parameters outlined within this section.
- 2.11.4 Extensions will be granted as long as no unauthorized modifications have been made to the product. Re-testing will be required if unauthorized modifications are made and/or if new or revised standards that impact product ratings have been introduced to the industry. NAMI will notify participants of pending or required changes to new or changed standards and the requirements needed to meet these standards. These notices will be provided through several methods, including but not limited to, NAMI's Web-Site, electronic notification, on-line meetings or annual meetings.

2.12 CORRECTIVE FIELD LABELING

- 2.12.1 In the event that any certified product is labeled incorrectly, corrective action(s) must be taken to remedy the mislabeling and to prevent any future occurrences.
- a. The Licensee shall provide NAMI with the details concerning the mislabeling, including model number, series information, physical address of the mislabeled products, exact location on the structure where the mislabeled products were installed, and the total number of units mislabeled.
 - b. The Licensee shall provide NAMI the manufacturing location at which the problem occurred and an overview of how the problem occurred at the manufacturing location.
 - c. The Licensee shall provide NAMI the actions taken at the manufacturing facility which would prevent any mislabeling in the future of certified products.
 - d. The Licensee shall provide NAMI with the name and contact information of the authorized representative who is responsible for correcting the mislabeling in the field.
 - e. The Licensee's authorized representative shall provide NAMI with documentation that correctly verifies the certified product in the field.
 - f. After all relevant documentation has been received, reviewed and approved by NAMI; the Licensee may then remove the incorrect label and apply the correct label on the products identified as mislabeled.
 - g. The Licensee shall provide NAMI with documentation verifying the actions taken after the incorrect labels have been replaced with the correct label on products identified as mislabeled including the name, contact information and signature of the responsible party that conducted the corrective field labeling. The responsible party shall also submit all relevant documentation to verify that the corrective field labeling was conducted in accordance with the corrective action documents that were submitted prior to the commencement of the corrective field labeling.
 - h. Authorities having Jurisdiction and NAMI reserve the right to require a NAMI representative to conduct the corrective field labeling procedure in lieu of the Licensee. The Licensee shall be responsible for all costs associated with the corrective field labeling project.
 - i. Applying the NAMI certification label in any instance outside the provisions as described in this section or as dictated in the NAMI License Agreement and the NAMI Procedural Guide, without the express written permission of the NAMI Administrator, is forbidden and shall be subject to the terms, as specified, in the NAMI License Agreement and the NAMI Procedural Guide.
 - j. All corrective field labeling documentation and records shall be maintained by the Licensee for minimum period of (4) years.
- 2.12.2 In the event that any certified product is missing the certification label or the certification label was inadvertently removed, the Licensee has the option to initiate corrective action(s) to field label the certified product(s).

- a. The Licensee shall provide NAMI with the details concerning the unlabeled certified product(s), including model number, series information, and physical address of the unlabeled certified products, exact location on the structure where the unlabeled certified products are installed, and the total number of units that are missing the certification label.
- b. The Licensee shall provide NAMI with the location at which the problem occurred and an overview of how the problem occurred at that location.
- c. The Licensee shall provide NAMI with the name and contact information of the responsible party who will be conducting the field labeling of the certified products.
- d. The Licensee's responsible party shall be an authorized representative of the Licensee. Parties or individuals outside the Licensee's legal authority are not allowed to conduct field labeling.
- e. The Licensee's authorized representative shall provide NAMI with documentation that correctly verifies the certified product in the field.
- f. After all relevant documentation has been received, reviewed and approved by NAMI; the Licensee may then apply the certification label on the products identified as certified products identified through the initial corrective action submittal.
- g. Upon completion, the Licensee shall provide NAMI with documentation verifying the actions taken after the certification labels have been placed on the certified products identified in the initial corrective action submittal, including the name, contact information and signature of the responsible party that conducted the corrective field labeling. The responsible party shall also submit all relevant documentation to verify that the corrective field labeling was conducted in accordance with the corrective action documents that were submitted prior to the commencement of the corrective field labeling.
- h. Authorities having Jurisdiction and NAMI reserve the right to require a NAMI representative to conduct the corrective field labeling procedure in lieu of the Licensee. The Licensee shall be responsible for all costs associated with the corrective field labeling project.
- i. Applying the NAMI certification label in any instance outside the provisions as described in this section or as dictated in the NAMI License Agreement and the NAMI Procedural Guide, without the express written permission of the NAMI Administrator, is forbidden and shall be subject to the terms, as specified, in the NAMI License Agreement and the NAMI Procedural Guide.
- j. All corrective field labeling documentation and records shall be maintained by the Licensee for a minimum period of five (5) years.

2.13 QUALITY ASSURANCE REQUIREMENTS

- 2.13.1 Each Licensee is required to maintain a quality assurance manual which outlines the quality assurance procedures of the licensee's facility and the production and/or assembling of certified products. The quality assurance manual must be provided to NAMI within thirty (30) business days of signing the license agreement.
- 2.13.2 A separate manual must be provided for each manufacturing location involved or the variations between facilities clearly indicated and maintained on file at each location.
- 2.13.3 NAMI's Quality Assurance Program is based on ISO/IEC Guidelines (ISO/IEC 17065 & ISO/IEC TR 17026).
- 2.13.4 The following information must be provided within the quality assurance manual:
 - a. Factory organization;
 - b. Materials, components and services;
 - c. Manufacture;
 - d. Quality control and testing;

- e. Records and documentation;
 - f. Application of indications of conformity (certification mark) (See Quality Assurance Requirements for Licensees).
- 2.13.5 Forward modified and updated versions of the quality assurance manual to NAMI on an annual basis.
- 2.13.6 All quality assurance records shall be maintained by the Licensee for a minimum period of five (5) years.

2.14 CORRECTIVE/PREVENTIVE ACTION/NON-COMPLIANCE

- 2.14.1 The Licensee will be notified if corrective action is required as a result of an inspection or surveillance process.
- 2.14.2 Fifteen (15) Business Days from receipt of the formal inspection report are provided for corrective/preventive action response for defects or deviations that would have negative impact on the performance results of the product. The Licensee shall use the NAMI Manufacturer's Corrective Action Form (MFGCPF-Current Revision) to provide action taken.
- 2.14.3 Thirty (30) Business Days from receipt of the formal inspection report are provided for corrective/preventive action response for defects or deviations which do not render the product inoperative or unsafe. The Licensee shall use the NAMI Manufacturer's Corrective Action Form (MFGCPF-Current Revision) to provide action taken.
- 2.14.4 Upon receipt of the NAMI Manufacturer's Corrective Action Form (MFGCPF-Current Revision) from the Licensee, NAMI will determine if the corrective/preventive action is accepted.
- 2.14.5 If corrective/preventive action is deemed acceptable, upon the Licensee's next inspection, the corrective/preventive action will be reviewed to assure NAMI that the new action is effective.
- 2.14.6 If further action is required, the Licensee is responsible for any expenses and/or fees incurred by NAMI for physical inspection or assessment (if required).
- 2.14.7 Upon final approval of the NAMI Manufacturer's Corrective Action, the NAMI Inspector will review the effectiveness of the action during the next inspection.
- 2.14.8 If the NAMI Manufacturer's Corrective Action is denied, the product and/or Licensee will be in non-compliance. (See Section 2.15 for non-compliance.)
- 2.14.9 If Non-Compliance is determined, the license agreement authorizes NAMI to withhold, withdraw, or deny the right of the Licensee to designate products as certified and to affix certification labels thereon, based on the results of tests, inspections of the products and other requirements.

2.15 CHALLENGE PROCEDURES

- 2.15.1 Any person (the "Challenger") shall have the right to commence a challenge of a NAMI Notice of Product Certification, product bearing a NAMI Certification Label or the results of an inspection. The challenge shall be in writing and shall provide sufficient information to identify the "reason" for the challenge. It shall be delivered by certified mail, return receipt requested, or other method, which provides evidence of receipt of delivery.

- 2.15.2 The requirements for the Statement of Challenge shall include:
- a. The Statement of Challenge shall contain a simple but complete statement of the Challenger's claim.
 - b. The original Statement of Challenge shall be signed by the Challenger. The signature shall constitute a certification that the signer has read the submission and that to the best of the signer's information and belief after reasonable inquiry, the submission is well-grounded in fact and that it is not submitted for any improper purpose.
 - c. The commencement of the Challenge may require an escrow deposit from the Challenger in an amount not to exceed \$1,000 per Challenge and for payment of costs.
- 2.15.3 NAMI shall make determination, within 30 business days following the date of receipt of the challenge, of the validity of the challenge by the evidence and information provided by the Challenger and respond in writing. This shall be performed in the following manner:
- a. NAMI shall render a decision as to the accuracy of the product certification or certification label, which has been challenged;
 - b. NAMI's decision shall be set forth in a written report, which shall indicate whether or not such product certification or certification label is accurate and state in detail, the basis for the decision.
 - c. If the findings require notification of the fenestration product Licensee, NAMI shall issue a written dated notice to the Licensee. If the Licensee is found to be responsible, immediate suspension of product certification and certification labeling will be in effect. NAMI may take any action necessary to affect such suspension and may notify the public of the suspension.
- 2.15.4 In the event of a Challenge decision resulting in suspension of the product of a Licensee through a Notice of Suspension, the following consequences shall result:
- a. Any and all rights of the Licensee's whose product is subject to the Notice of Suspension to use the NAMI name, registered certification mark, certification mark, service mark, product certification authorization or NAMI label shall immediately cease with respect to the product subject to suspension;
 - b. Licensee shall remove NAMI labels from all units of the product subject to the Notice of Suspension which are then in the Licensee's production facilities or distribution system;
 - c. Licensee shall cease advertising NAMI licensing for certification with respect to the product subject to the Notice of Suspension;
 - d. Licensee shall cease labeling the product subject to the Notice of Suspension with any NAMI label.
 - e. ISO/IEC 17030, "Guidelines for corrective action to be taken by a certification body in the event of misuse of its mark of conformity" shall be followed.
- 2.15.5 The Licensee, at any time during the period commencing on the date of delivery of the suspension notice and up to 30 days, may appeal the suspension of product's certification. All appeals must be submitted in writing.
- 2.15.6 If no agreement is reached between the Challenger and NAMI, the NAMI Advisory Committee shall be used to settle the challenge.
- 2.15.7 A record of the challenge, along with all supporting evidence and remedial actions will be maintained on file for a minimum period of five (5) years.

2.16 COMPLAINT PROCEDURES

- 2.16.1 Any person (the "Complainant") shall have the right to commence a complaint against NAMI, its staff or procedures, NAMI Licensees, Notice of Product Certification, a product

bearing a NAMI Certification Label or the results of an inspection. The complaint shall be in writing and shall provide sufficient information to identify the “reason” for the complaint. It shall be delivered by mail, electronic mail or other method, which provides evidence of receipt of delivery.

- 2.16.2 The requirements for the Statement of Complaint shall include:
- a. The Statement of Complaint shall contain a simple but complete statement of the Complainant’s claim.
 - b. The Complainant shall attach any evidentiary documentation to the Statement of Complaint.
 - c. The original Statement of Complaint shall be signed by the Complainant. The signature shall constitute a certification that the signer has read the submission and that to the best of the signer’s information and belief after reasonable inquiry, the submission is well-grounded in fact and that it is not submitted for any improper purpose.
- 2.16.3 NAMI shall make determination, within 30 business days following the date of receipt of the complaint, the validity of the complaint by the evidence and information provided by the Complainant and respond in writing. This shall be performed in the following manner:
- a. NAMI shall render a decision as to the accuracy and validity of the complaint.
 - b. NAMI shall notify the complainant that NAMI is in receipt of the complaint and all supporting documentation.
 - c. NAMI’s decision shall be set forth in a written report, which shall indicate whether or not such complaint is accurate, valid and state in detail, the basis for the decision.
 - d. Complaints regarding NAMI Inspectors shall be handled in accordance with Section 7.C of the NAMI quality assurance manual (Current Revision). All other complaints shall be handled in accordance with Sections 13.D and 13.E of the NAMI quality assurance manual (Current Revision).
 - e. If the findings require notification of a NAMI Licensee, NAMI shall issue a written dated notice to the Licensee. If the Licensee is found to be responsible, immediate action shall be taken in accordance with provisions listed in the NAMI Licensee Agreement (Current Revision) and the NAMI Procedural Guide. NAMI may take any reasonable action necessary to enforce the provisions contained in the NAMI License Agreement (Current Revision), the NAMI Procedural Guide (current revision) and may notify the public or Authorities having Jurisdiction (AHJ) of such actions.
 - f. Release of information concerning internal actions, decisions, outcomes and evidence related to complaints is considered proprietary and are at the sole discretion of the NAMI Administrator.
- 2.16.4 Complainants have the right to appeal the decision of a complaint. All appeals shall be handled in accordance with Section 2.17 of the NAMI Procedural Guide (Current Revision).
- 2.16.5 A record of the complaint, along with all supporting evidence and remedial actions will be maintained on file for a minimum period of five (5) years.

2.17 APPEAL PROCEDURES

- 2.17.1 Any person (the “Appellant”) shall have the right to appeal the decision of a challenge or complaint by NAMI. The appeal shall be in writing and shall provide sufficient information to identify the “reason” for the appeal. It shall be delivered by certified mail, return receipt requested, electronic mail or other method, which provides evidence of receipt of delivery.
- 2.17.2 The requirements for the Statement of Appeal shall include:
- a. The Statement of Appeal shall contain a simple but complete statement of the Appellant’s claim.

- b. The original Statement of Appeal shall be signed by the Appellant. The signature shall constitute a certification that the signer has read the submission and that to the best of the signer's information and belief after reasonable inquiry, the submission is well-grounded in fact and that it is not submitted for any improper purpose.
 - c. The commencement of the appeal may require an escrow deposit from the Appellant in an amount not to exceed \$1,000 per appeal and for payment of costs.
- 2.17.3 NAMI shall make determination, within 30 business days following the date of receipt of the appeal, the validity of the appeal based on the evidence and information provided by the Appellant and respond in writing. This shall be performed in the following manner:
- a. NAMI shall render a decision as to the accuracy of the challenge or complaint, which has been appealed;
 - b. NAMI's decision shall be set forth in a written report, which shall indicate whether or not such decision is accurate, valid and state in detail, the basis for the decision.
 - c. If the findings require notification of the fenestration product Licensee, NAMI shall issue a written dated notice to the Licensee. If the Licensee is found to be responsible, immediate suspension of product certification and certification labeling will be in effect. NAMI may take any action necessary to affect such suspension and may notify the public and Authorities having Jurisdiction (AHJ) of the suspension.
- 2.17.4 In the event of a decision resulting in suspension of the product of a Licensee through a Notice of Suspension, the following consequences shall result:
- a. Any and all rights of the Licensee's whose product is subject to the Notice of Suspension to use the NAMI name, registered trademark, certification mark, service mark, product certification authorization or NAMI label shall immediately cease with respect to the product subject to suspension;
 - b. Such product Licensee shall remove NAMI labels from all units of the product subject to the Notice of Suspension which are then in the Licensee's production facilities or distribution system;
 - c. Such product Licensee's shall cease advertising NAMI licensing for certification with respect to the product subject to the Notice of Suspension;
 - d. Such Licensee shall cease labeling the product subject to the Notice of Suspension with any NAMI label.
 - e. ISO/IEC 17030, "Guidelines for corrective action to be taken by a certification body in the event of misuse of its mark of conformity" shall be followed.
- 2.17.5 If no agreement is reached between the Appellant and NAMI, the NAMI Advisory Committee shall be used to settle the appeal.
- 2.17.6 In situations involving NAMI's conformance with its accreditation criteria, the Licensee has the right to appeal to NAMI's accreditors. NAMI shall abide by all decisions pertaining to accreditation criteria decisions set forth by its accreditors.
- 2.17.7 A record of the appeal, along with all supporting evidence and remedial actions will be maintained on file for a minimum period of five (5) years.

SECTION 3.0-ROLE OF NAMI

3.1 RESPONSIBILITIES OF NAMI

Listing of products in the Certified Products Listing is contingent upon the establishment of a validation system which is to assure a Licensee's compliance of their products with the requirements set forth in the License Agreement. The role of NAMI is to sponsor and administer the certification program and is solely responsible for its operation. To achieve the objective of providing a mechanism by which the Licensee certifies compliance of their products to the referenced standards, NAMI shall, as a minimum, do the following:

- 3.1.1 Prepare and publish a listing of NAMI Certified Products containing the Licensee's names and their Certified Products in good standing, as well as a listing of NAMI Approved Laboratories (see www.NAMICertification.com for directory).
- 3.1.2 Refrain from listing or removing from the listing, a Licensee's products except on due notification to the Licensee.
- 3.1.3 Prepare the program forms which will be adopted for use by the Licensee and NAMI in connection with operation of the system. Assist Licensee with understanding the requirements of the program as outlined within the license agreement and applicable procedural guides and in the necessary documentation required to be on file. Resolve any issues in reference to the certification program before certification is granted.
- 3.1.4 NAMI's Inspector shall conduct inspections as outlined in program appendixes to verify Licensee's quality of production in accordance with applicable performance tests and referenced drawings.
- 3.1.5 NAMI shall promptly review and if found acceptable, approve test results and/or engineering equivalency documents for certification to Licensee's products to be listed in the NAMI Certified Products Listing.
- 3.1.6 NAMI shall authorize, withhold, withdraw or deny the right of any Licensee to designate a product as certified and to affix certification labels thereon, based on the results of tests, and/or engineering documents, and inspections of the products and other requirements as herein provided. All actions will be documented and maintained on file.
- 3.1.7 The decision as to whether or not to certify a product shall be taken by NAMI and based on the information gathered during the evaluation process which includes the process defined within this document and any other relevant information.
- 3.1.8 Determine penalties to be levied for non-compliance.
- 3.1.9 Implement a procedure whereby a Licensee or non-Licensee may submit a challenge on a Licensee's listed products to NAMI in substantiation of a claim of non-compliance.
- 3.1.10 Confirm the accreditation of all NAMI approved test laboratories for use in the program.
- 3.1.11 Select samples for production line testing (within applicable program).
- 3.1.12 Have the right to witness and/or request testing on certified products.
- 3.1.13 Have the right to conduct a destructive examination in order to determine if the product being manufactured conforms to the criteria and standards as set forth.

- 3.1.14 Upon the finding of improper, inadequate or inaccurate performance, improper tests or unethical conduct by any NAMI approved test laboratory or its agents or representatives with respect to services performed for the Licensee in connection with this program, NAMI will require immediate withdrawal of their official designation as a NAMI approved testing laboratory. All Licensees will be notified. In such event, only the test reports and data previously provided by such test laboratory shall be considered valid for the purposes of this program and no further certification test at such test laboratory or engineering equivalency document shall be authorized or recognized by NAMI or requested by any Licensee.
- 3.1.15 Respond to routine requests for non-classified information on listed windows or doors.
- 3.1.16 Be responsible for label design.
- 3.1.17 Assign label printing rights.
- 3.1.18 Determine applicability of standards to the products submitted by a Licensee for certification.
- 3.1.19 Promptly review and, if found suitable in accordance with industry accepted guidelines, authorize Waiver of Retest or Product Variation for changes in products.
- 3.1.20 Provide Licensee appropriate notice of changes to certification program and/or its requirements. Notification will be made through, but not limited to, NAMI's Web-Site, electronic notification, on-line meetings and annual meetings. Industry recognized implementation dates will be followed and will verify that each Licensee makes necessary changes.
- 3.1.21 Establish such other policies, procedures and guidelines as may be deemed necessary for the maintenance of the program.
- 3.1.22 NAMI shall provide certification extensions based on each program's parameters and/or requirements. (See appendixes for program parameters)
- 3.1.23 NAMI shall maintain certification through the process and procedures as described within program documents.
- 3.1.24 Formulation of policy relating to operation of programs and certification procedures shall be through Administrative Review and review of the Certification Advisory Committee.
- 3.1.25 Shall provide additional application information to applicant upon request.
- 3.1.26 Shall clearly define the requirements for certification and inspections through program documents and procedures, and make sure applicant understands these requirements. If requested, French translation is available; all correspondence and processes requiring translation shall be assigned to the designated NAMI staff and/or inspector, capable of translating by either oral, written, or electronic means.
- 3.1.27 Shall clearly define the scope of the certification in accordance with Section 2 of this Procedural Guide and confirm which scope is being sought by the applicant, the location of the applicant's operations and any special requirements such as the language used by the applicant.
- 3.1.28 Resolve any differences in understanding between the certification body and the applicant.

- 3.1.29 NAMI shall not delegate authority for granting, maintaining, extending, suspending or withdrawing certification to any outside person or body.
- 3.1.30 NAMI shall not use Sub-Contractors to perform any of the functions involved with the certification programs.
- 3.1.31 Shall inform the Licensee, in advance, of the information that it intends to place in public domain.
- 3.1.32 When required by law or authorized by contractual commitments to release confidential information, shall notify the Licensee, unless prohibited by law, of the information to be provided.
- 3.1.33 Shall have the right to notify all interested parties and Authorities having Jurisdiction in instances where certified products are found to be hazardous. If required, the notification shall be in writing and in the official language(s) of the Licensee, with the appropriate accrediting body copied on all correspondence. Procedures for the handling of such instances shall be in accordance with Section 17 of the NAMI Quality Assurance Manual.
- 3.1.34 Shall have the right to allow access by its accreditors and Authorities having Jurisdiction (AHJ) to any information used in making certification decisions, including test data. Such examinations may be conducted at the Licensee's or NAMI's premises.

3.2 RESPONSIBILITIES OF ADMINISTRATOR

- 3.2.1 Administrator will promptly review and if found acceptable, approve test results or engineering documents for certification of Licensee's products to be listed in the NAMI Certified Products Listing.
- 3.2.2 Administrator shall authorize, withhold, withdraw or deny the right of any Licensee to designate a product as certified and to affix certification labels thereon, based on the results of tests, and/or engineering documents, and inspections of the products and other requirements as herein provided. All actions will be documented and maintained on file.
- 3.2.3 Administrator shall promptly review and, if found suitable in accordance with industry accepted guidelines, authorize "Waivers of Retest" and "Product Variation" for changes in products.
- 3.2.4 Administrator shall authorize certification extensions based on each program's parameters and/or requirements (see Appendixes for program parameters.)

3.3 RESPONSIBILITIES OF INSPECTOR

- 3.3.1 NAMI Inspectors shall conduct inspections as outlined in program appendixes to verify Licensee's quality of production in accordance with applicable performance tests and referenced drawings.
- 3.3.2 Inspector shall review Licensee's quality assurance program for compliance to programs outlined requirements.
- 3.3.3 Inspector shall document each inspection and submit findings to NAMI.

SECTION 4.0-ROLE OF LICENSEE

4.1 RESPONSIBILITIES OF LICENSEE

The Licensee is the manufacturer of the products certified in the applicable program. The certification referred to in the license agreement and in this procedural guide is based on the written statement by the Licensee that the listed products comply with all requirements set forth in the applicable standards (which by reference are made part of this procedural guide) and that they will continuously manufacture quality products.

- 4.1.1 Informs NAMI of any changes that may affect its ability to conform with the certification requirements, including:
 - a. Legal, commercial, organizational status or ownership;
 - b. Changes in key managerial, decision-making or technical staff;
 - c. Modifications to the product or certification method;
 - d. Contact address or production sites;
 - e. Major changes to the quality management system.
- 4.1.2 Provide testing information as defined in this document.
- 4.1.3 Provide all required documentation when submitting a Waiver of Retest or Product Variation.
- 4.1.4 Manufacture the product so that production line products will be exact duplicates as feasibly possible of the sample which was subjected to the test and/or engineering documents and upon which certification was granted.
- 4.1.4 Maintain a documented quality assurance system acceptable to NAMI and comply with ISO/IEC TR 17026 for all products herein certified.
- 4.1.5 Maintain current test reports, engineering documents, and drawings or provide NAMI test reports, engineering documents and drawings from all component vendors. If Licensee is a satellite, subsidiary or assembler, they are required to state the location where all applicable documentation is kept in the quality assurance manual.
- 4.1.6 Allow complete access by the NAMI Inspector to any facility during regular working hours, where certified products are manufactured or assembled, including shipping, receiving, offices and warehouses.
- 4.1.7 Permit the examination of certain records by NAMI indicating compliance of purchased materials and parts with the referenced specifications.
- 4.1.8 Provide at each manufacturing site a test frame into which a random sample that has been selected by a NAMI Inspector can be mounted to determine operation of the product as required.
- 4.1.9 Submit the product to a “destructive inspection” by a NAMI Inspector if there is no other alternative to determine that the product being manufactured conforms to the criteria and standards as set forth.
- 4.1.10 Submit the randomly selected sample for production line testing to a NAMI approved laboratory within thirty (30) days of product selection. All testing and shipping cost is to be borne by the Licensee.

- 4.1.11 Arrange for an official representative to verbally review with NAMI the findings upon completion of each inspection
- 4.1.12 Respond promptly and effectively to correct any deficiencies found during inspection (or any other manner in which they may have been brought to the program's attention) and to notify NAMI how the corrections were accomplished in writing within the allowable time period commencing with the date of receipt of the inspection report as follows:
 - a. Thirty (30) Days-Minor defects or deviations which do not render the product inoperative or unsafe. Labels may continue to be applied.
 - b. Fifteen (15) Days-Defects or deviations which change the performance results (negatively) from that of the test sample. Labels may NOT be applied until product is corrected or re-tested.
- 4.1.13 All proposed changes to a product shall be brought to NAMI's immediate attention (by filing a request for Waiver of Retest or Product Variation form) and shall be incorporated in production units only with the approval of NAMI.
- 4.1.14 Subject a sample to re-test if in NAMI's judgment the change(s) indicates the performance on which certification was granted may differ from the unit with the modification(s).
- 4.1.15 Purchase and apply labels only from NAMI or an approved NAMI supplier.
- 4.1.16 Apply the correct certification label to only certified products, and only at the time and place of manufacture.
- 4.1.17 Pay NAMI the fees (described in the appendix of the License Agreement) for any additional inspections (in-plant or elsewhere, if necessary) required as a result of gross failure of product compliance or other findings of substantial changes in products compared to the sample subjected to test, determined by test, inspection by NAMI or a formal complaint.
- 4.1.18 Notify NAMI of the location in which final assembly of the certified product takes place. If the location of final assembly is outside the continental United States, additional costs will be incurred.
- 4.1.19 Provide NAMI with a schedule of all plant closings for vacation, holidays, inventories, or similar activities at which time inspection is either impossible or impractical. All emergencies or unscheduled closings should be made known to NAMI as soon as practical. In the event that a participant fails to notify NAMI as stated above, and NAMI makes an unannounced inspection for the purpose of this program, the participant will be billed at the discretion of NAMI for the re-visit.
- 4.1.20 Notify NAMI immediately of change in manufacturing location, or additional plants where certified products may be made and be subject to inspection.
- 4.1.21 Refrain from using certification documents and/or labels in a misleading or unauthorized manner.
- 4.1.22 Agree to abide by any interpretations, requirements or modifications which may be incorporated in the standard.
- 4.1.23 Keep a record of all complaints made known to the manufacturer relating to the product's compliance with requirements of the relevant standard for five years, and to make these records available to NAMI when requested.

- 4.1.24 Take appropriate action with respect to such complaints and any deficiencies found in products or services that affect compliance with the requirements for certification.
- 4.1.25 Document all actions taken to resolve complaints.
- 4.1.26 Comply with the requirements of the certification program when making reference to its product's certification in communication media such as documents, brochures or advertising.
- 4.1.27 Maintain an active quality assurance program in accordance with NAMI's quality assurance guidelines and any Authority Having Jurisdiction's requirements.
- 4.1.28 Maintain a current list of component suppliers as stated in the certified product's test reports in the quality assurance manual and/or on file, with respect to product certification.
- 4.1.29 The Licensee shall notify NAMI of any modifications to the product as outlined in this document, and notify NAMI of any changes to their manufacturing process or quality system relevant to the certified product or products prior to implementing the change.
- 4.1.30 In situations where a language barrier exists, the Licensee shall have a translator present during inspections to provide for effective communication and understanding.
- 4.1.31 Maintains responsibility in the monitoring of expiration dates that are associated with NAMI Certifications and/or certificates. Responsibility of such and their subsequent renewal rest with the Licensee and is not NAMI's or its staff's responsibility.
- 4.1.32 For electronic surveillance, the Licensee shall make available the appropriate computer hardware and software to conduct the surveillance. If cameras are required during the surveillance, the Licensee will be notified in advance so appropriate electronic devices can be obtained.

SECTION 5.0-REQUIREMENTS FOR PRE-HANGERS/FABRICATORS

5.1 REQUIREMENTS

- 5.1.1 Pre-hangers and/or fabricators are required to meet all sections of the NAMI Procedural Guide except any rules or regulations governing testing protocol. Testing protocol guidelines must be met by the manufacturer doing the initial testing.
- 5.1.2 Upon completing all the requirements as outlined in Section 4.0 and entering into a license agreement with NAMI, the pre-hanger and/or fabricator must have permission from the initial building envelope product manufacturer to use their testing data for certification consideration. This can be provided to NAMI through documented permission from the manufacturer to use their testing information for the applicable pre-hanger/fabricator or have the manufacturer provide an approved testing laboratory with the required information and have the test reports issued under the pre-hanger/fabricator's name to NAMI. (Under the NFRC Program, a pre-hanger must have the test reports re-issued in their name or if a private labeler, permission to use the test reports must be granted by the NFRC Licensee)
- 5.1.3 All test reports and engineering equivalency documents provided to NAMI for the pre-hanger and/or fabricator must have all the required information; including a test report engineering equivalency documents from an approved independent laboratory or engineer, laboratory or engineer stamped drawings and bills of material. The pre-hanger and/or fabricator must inform NAMI if any type of change in material or design are performed at their facility. If modifications are stated, the pre-hanger and/or fabricator will be required to provide NAMI with the same information as required for a Waiver of Retest or Product Variation in order for the product to be reviewed.
- 5.1.4 Upon successful review of the documents, certification will be granted in the name of the pre-hanger or fabricator as defined within the license agreement.
- 5.1.5 Certification labels will be designed for approved pre-hanger or fabricators certified products. All labeling will be performed in accordance with the requirements as stated within the NAMI Procedural Guide.

APPENDIX A

NAMI'S STRUCTURAL/IMPACT CERTIFICATION PROGRAM PROCEDURAL GUIDE FOR BUILDING ENVELOPE PRODUCTS

This document is a supplement and is intended to be used in conjunction with NAMI's Certification Program Procedural Guidelines.

Section I: General

Requirements for structural or impact properties of fenestration products may vary from jurisdictions and regions in the United States as well as International Markets. The NAMI Certification Program allows the Licensee the flexibility of having their product tested to the standard or standards which would apply to their area of distribution. The Licensee should establish which standard(s) apply to their areas of distribution.

Testing and certification is voluntary, therefore, a manufacturer may choose to test to a complete designated specification or to specific performance requirements only. Certification documentation will reflect what the product was tested to.

Section II: Test Standards

NAMI's Structural/Impact Certification Program provides for equitable administration, evaluations, decisions and enforcement through the use of the standards as defined in Section 2.1 of NAMI's Certification Program Procedural Guidelines.

If any revisions are made to these referenced standards, NAMI will review the effect of such revisions on the Licensee's Products. NAMI will notify each Licensee of the date such revisions shall become effective.

Section III: Test Samples

Testing is an important and critical aspect of the certification process. Here are some practical guidelines and program parameters which will assist in determining the system or configuration which should be submitted to the laboratory. Products submitted for certification consideration shall be:

1. Tested by an approved NAMI Independent Testing Laboratory as defined in Section 2.3.
2. Product shall meet test size as defined in applicable standard or specification. Many specifications and standards will have a minimum or gateway size requirement. These sizes must be met in order to certify to the applicable standard. If no minimum size is defined by the test specification, the manufacturer should test the largest size that is produced. In many cases, the largest size shall qualify equal or smaller size.
3. Product configuration shall be determined by the applicable standard or specification. The weakest configuration will qualify stronger configurations if the test standard or specification does not define accepted configurations.

Section IV: Test Report and Engineering Equivalency Document Review

The following information is reviewed in structural test reports.

1. Test reports and/or engineering documents shall be reviewed for the following:
 - a. Manufacturer's Name;
 - b. Series or model name;
 - c. Specification and/or performance class to which product was tested;
 - d. Date test/product evaluation completed;

- e. Frame/panel/sash/ventilator material type;
 - f. Configuration of sash/panels/ventilators;
 - g. Glass type and glazing information;
 - h. Reinforcement (where applicable);
 - i. Insulating glass air space-width;
 - j. Test methods;
 - k. Laboratory or engineer stamped drawings;
 - l. Laboratory or engineer stamped bill of materials;
 - m. Laboratory or engineer stamped assembly drawings;
 - n. Additional Information;
2. Test reports and/or engineering documents shall be reviewed for compliance and completion to the appropriate test specification;
 3. Comparative analysis documents shall be reviewed for compliance to the AAMA 2502.
 4. Assembly and extrusion drawings shall be reviewed for compliance and completion to the appropriate test specification;
 5. Bill of materials shall be reviewed for test laboratory stamp which authenticates materials used in tested unit;
 6. Determine that the size of the unit is in compliance with applicable test specification;
 7. Compare test report and/or engineering documents to specification to determine that all tests were performed;
 8. Determine that all test report and/or engineering documents findings were within tolerance or passed for rating stated by testing laboratory.
 9. The inspection data recorded is of a proprietary nature and is only used as the reference material for issuance of the formal Inspection Report which will be forwarded to the license within ten (10) days of the inspection.

Section V: Notice of Product Certification

Upon successful completion of the review process and in compliance with NAMI's Guidelines, a Notice of Product Certification will be issued by the Administrator. The Notice of Product Certification shall contain the following information:

1. Manufacturer's Name, Location and Code Number;
2. Test Specification and product rating
3. Product Model/Series and brief description;
4. Configuration/glazing type/any additional applicable information;
5. Maximum frame and sash/panel/vent size;
6. Test report and/or Waiver of Retest/Product Variation number;
7. Test laboratory name;
8. Certification date;
9. Expiration date;
10. Revision dates;
11. Authorized signature.

Upon granting certification, the certified product will be listed in NAMI's Certified Products Directory at www.NAMICertification.com. The actual certification will also be uploaded into the directory for public access.

Section VI: In-Plant Inspections

Inspections will be performed in accordance with NAMI's Certification Program Guidelines. Inspections for structural and impact products will be performed a minimum of one time per year or a maximum of two times per year for each manufacturing location. Licensees requiring certification to HUD UM Bulletin 111 (HUD Building Product Standards), AAMA 1701.2 (Voluntary Standard Primary Window and Sliding Glass Door for Utilization in Manufactured Housing), AAMA 1702.2 (Voluntary Standard Swinging Exterior Passage Door for Utilization in Manufactured Housing) and AAMA 1704 (Voluntary Standard Egress Window Systems for Utilization in Manufactured Housing) must be inspected a minimum of two (2) times per year.

1. A physical inspection shall be a review of the independently tested unit to the product fabricated at the manufacturing location. The inspection report shall include, but not limited to the accumulation of the following information:
 - a. Manufacturer's Name/Location/Code Number;
 - b. Date of Inspection;
 - c. Name of contact person or persons;
 - d. Series/product name of each product reviewed;
 - e. Status of each product certified/record changes;
 - f. Product size (where applicable);
 - g. Product reviewed for compliance and/or discrepancies to test report and/or engineering equivalency documents;
 - h. Record extrusion thickness and dimensions (where applicable);
 - i. Mark production units for testing with permanent marking/state date of inspection and initial product;
 - j. Review quality assurance program/processes and record discrepancies or changes to program;
 - k. Verify quality assurance manual on file;
 - l. Hardware-operators and locking mechanisms;
 - m. Balance system;
 - n. Reinforcement (where applicable);
 - o. Muntins (where applicable);
 - p. Matrix, software or charts to demonstrate compliance to ASTM E1300;
 - q. Glazing system/glass options;
 - r. Any additional information.
2. Inspections shall include review of manufacturer's quality assurance program, including manual, documentation and personnel. All documentation must be maintained for a minimum period of five (5) years by the Licensee.
3. Manufacturers having products certified to the AAMA 1701.2 and/or the AAMA 1702.2 are required to conduct production unit testing in accordance with these standards at least once a year in accordance with the NAMI Procedural Guide.
4. Inspectors shall review with the Licensee any changes in standards or NAMI documents. Updated versions of NAMI documents shall be provided where applicable.

Section VII: Waiver of Retest or Product Variation

A Waiver of Retest or Product Variation may be submitted by a Licensee for products that are being considered for modification. Waivers of Retest or Product Variation must be supported through documented evidence, independent laboratory information, engineering calculations or engineering evaluations that have been signed by an engineer. (When providing products to the State of Florida, a Florida Professional Engineer must sign off on the document.) If Waiver of Retest or Product Variation does not support the modification, the product must be retested in order for certification to be obtained on the modified product.

See further Waiver of Retest or Product Variation information in NAMI's Certification Programs Procedural Guidelines. (Please note: In the case of impact products, the same glass as provided in the product at the time of test is required in a certified product. At this time, limited guidelines have been established in order to allow Waivers of Retest or Product Variation for impact products.)

Section VIII: Glazing

Glazing requirements are often outlined in the applicable standard or specifications. At the place of manufacture, the Licensee shall provide the glass thickness for the applicable design pressure rating in accordance with ASTM E1300.

1. A product tested with a specific glass type shall qualify products of the same type but of a smaller size to be manufactured with a different glass type provided the glass conforms to ASTM E1300.
2. Products tested with plastic glazing materials shall not qualify glass glazing materials.
3. Products tested with glass glazing materials shall not qualify plastic glazing materials.
4. Products tested with insulating glass shall not qualify single glazed products.

Section IX: Production Line Testing

If a Licensee is a participant of the HUD UM111 structural program, any products bearing those labels are required to have a sample selected by NAMI, at least once every year, to be tested at an ISO/IEC 17025 accredited laboratory to the applicable AAMA standard.

If a Licensee is a participant of the Manufactured Housing program, certified products having tested to the AAMA 1701.2, AAMA 1702.2 and/or the AAMA 1704 standards are required to have production unit sampling and testing as specified in these standards. Selection of the randomly selected production unit shall be limited to one product, regardless of the amount of certifications held, during the inspection to which production line sampling and testing is occurring.

Section X: Labeling

When a Notice of Product Certification is issued, a certification label is required to be placed on any product claiming certification status. All certification labels must be purchased through NAMI. Certification labels:

1. Shall only be applied to products authorized for NAMI Certification.
2. Shall only be applied at the manufacturing location. Special permission is required if a label is to be applied at any location other than the manufacturing facility.
3. Can be combined to demonstrate compliance to more than one certification program (i.e.: structural and thermal programs may be combined).
4. NAMI will design and approve label type.
5. Some code jurisdictions may require higher negative design pressures (DP). Since several applicable window and door specifications base their rating on the lowest positive, negative test pressure and water test pressure in 5 psf increments, a certification label may bear the actual negative design pressure that was achieved during testing may be permitted on the certification label. The negative test pressure rating must appear on a label bearing the full specification rating.

Note: All of the guidelines within this addendum are in addition to NAMI's Certification Programs Procedural Guidelines.

APPENDIX B

NAMI'S THERMAL CERTIFICATION PROGRAM

This document is a supplement and is intended to be used in conjunction with NAMI's Certification Program Procedural Guidelines and NFRC's Product Certification Program (NFRC 700), Certification Agency Program (NFRC 702), and Laboratory Accreditation Program (NFRC 701).

Section I: General

NAMI is a licensed Inspection Agency for the National Fenestration Rating Council (NFRC). NFRC is located at:

National Fenestration Rating Council (NFRC)
6305 Ivy Lane, Suite 140
Greenbelt, MD 20770
Tel- (301) 589-1776
Fax- (301) 589-3884

Requirements for thermal properties of fenestration products may vary from jurisdictions and regions in the United States as well as International Markets. The NAMI Certification Program requires compliance to the NFRC Standards as required under NFRC documents and outlined in Section 2.1 of the NAMI's Certification Program Procedural Guidelines.

Section II: Test Standards

NAMI's Thermal Certification Program provides for equitable administration, evaluations, decisions and enforcement through the use of the standards as defined in Section 2.1, of NAMI's Certification Program Procedural Guidelines, NFRC Product Certification Program (NFRC700) and NFRC Laboratory Accreditation Program (NFRC 701). The NAMI Certification Program requires compliance to the NFRC Standards as stated in NFRC documents.

If any revisions are made to these referenced standards, NAMI will review the effect of such revisions on the Licensee's Products. NAMI will notify each Licensee of the date such revisions shall become effective.

Section III: Simulation and Testing

Simulation and testing is an important and critical aspect of the certification process for thermal properties of fenestration products. All products submitted to NAMI for certification consideration must undergo simulation and testing in compliance to NFRC documents.

Simulation:

1. Product must be simulated by an approved NFRC Simulation Laboratory.
2. Manufacturer must submit two copies of product drawings representative of each product in the applicable product line.
3. Products shall be rated and meet the definition and other requirements set forth in NFRC 100.
4. Licensee shall direct simulation laboratory to conduct computer simulations in accordance with NFRC 100 and develop the product line matrix.

5. The simulation laboratory shall forward a copy of the product line matrix, simulation report and support data in accordance with NFRC 701 to NAMI. (Products that cannot be simulated may qualify for an NFRC rating using the Alternative Testing Procedure. See NFRC 700 for information.)

Testing:

1. A test sample representing the product line of the simulation matrix should be forwarded to an NFRC accredited testing laboratory for validation testing.
2. Manufacturer must submit two copies of the product drawings of each product in the applicable product line.
3. Licensee shall direct simulation laboratory to conduct test in accordance with NFRC 100.
4. Upon completion of testing, laboratory shall forward a copy of each test report, along with copies of the complete support data as required by NFRC 701 to NAMI.

Section IV: Simulation and Test Report Review

Simulation and validation test report will be stamped with the date of receipt within NAMI's Office. The simulation and test reports, data and drawings indicating full compliance will be reviewed by the Administrator.

Section V: Notice of Product Certification

Upon successful completion of the review process, and in accordance with NFRC's 700 and 702 documents, the Administrator will issue the Certification Authorization Report (CAR) to the Licensee.

Section VI: Expiration

Initial certification shall be valid for five (5) years based on the original test date of the validation test report. Products for re-qualification testing at the end of the five year period may be submitted in accordance with guidelines provided by NFRC 700 and 702 documents.

Section VII: Inspection

Products certified under the NAMI/NFRC Program will be inspected on an annual basis. Inspections and inspection reports will be conducted and issued in accordance with NFRC procedures. The inspection data recorded is of a proprietary nature and is only used as the reference material for issuance of the formal Inspection Report which will be forwarded to the license within thirty (30) days of the inspection.

Section VIII: Labeling

Products certified to NFRC requirements may then bear the NFRC Certifications Labels. This consists of a temporary and permanent label, label certificate, or FMC for each product. All labeling must be in compliance with NFRC requirements. (See NFRC documents for full labeling requirements.)

Section IX: Compliance and Monitoring

NAMI is responsible under NFRC licensing requirements to investigate potential violations (prohibited activities) as set forth in the NFRC Compliance and Monitoring Program (NFRC 707). NAMI shall follow the procedures, documentation requirements and policies for investigating potential violations as outlined in the NFRC Compliance and Monitoring Program (NFRC 707).

APPENDIX C

NAMI'S EXTERIOR DOOR SYSTEMS CERTIFICATION PROGRAM

This document is a supplement and is intended to be used in conjunction with NAMI's Certification Program Procedural Guidelines.

Section I: General

Requirements for Exterior Door Systems vary from jurisdictions and regions in the United States as well as International Markets. The NAMI Certification Program allows the Licensee the flexibility of having their product tested to the standard or standards which would apply to their area of distribution. The Licensee should establish which standard(s) apply to their areas of distribution.

Section II: Test Standards

NAMI's Exterior Door Systems Certification Program provides for equitable administration, evaluations, decisions and enforcement through the use of the following standards:

AAMA 506
AAMA 920
AAMA 925
AAMA 1304
AAMA 1702.2
AAMA/WDMA/CSA 101/I.S.2/A440-05
AAMA/WDMA/CSA 101/I.S.2/A440-08
AAMA/WDMA/CSA 101/I.S.2/A440-11
AMD 100
ANSI A250.13
ANSI/AAMA/NWWDA 101/I.S.2-97
ANSI/AAMA/WDMA 101/I.S.2/NAFS-02
ASTM E283
ASTM E330
ASTM E331
ASTM E547
ASTM F476
ASTM E1886
ASTM E1996
PA 201
PA 202
PA 203
TAS 201
TAS 202
TAS 203
CSA A453

If any revisions are made to these referenced standards, NAMI will review the effect of such revisions on the Licensee's Products. NAMI will notify each Licensee of the date such revisions shall become effective.

Section III: Test Samples

Testing is an important and critical aspect of the certification process. Here are some practical guidelines and program parameters which will assist in determining the system or configuration which should be submitted to the laboratory.

1. There are no minimum or gateway size requirements unless testing and certifying to either ANSI/WDMA/CSA 101/I.S.2/NAFS-02 or 101/I.S.2/A440. For these standards, the minimum gateway size requirements shall be met.
2. The size of the door or systems tested shall qualify equal or smaller size as long as the hinge location is identical to the originally tested unit. (Note: An 8'0" door does not qualify a 6'8" door unless the hinge number and location are identical. This is seldom done due to marketable design pressures that licensees are trying to achieve.)
3. Test the maximum size of the largest door panel and/or system that is produced.
4. Opaque systems shall not qualify glazed systems.
5. Glazed systems shall not qualify opaque system.
6. Glazed systems shall contain the largest glazing area for which certification is needed. All glazing areas equal or smaller to the one originally tested shall qualify for certification.
7. Insulating Glazed (IG) shall not qualify single glazed units.
8. Single glazed units shall qualify insulated glazed (IG) units (non-impact).
9. A true divided lite system that is tested shall qualify a glazed system.
10. A glazed full lite test system shall not qualify a true divided lite system.
11. Product tested qualifies only doors or door systems with the same corner construction, frame/insert assembly, hinge and hinge locations¹, locking/latching hardware and installation method.
12. In-Swing and Out-Swing modes must be tested. If an In-Swing Mode is tested, a professional engineering evaluation may be performed to determine equivalency or greater of the Out-Swing and a Waiver of Retest or Product Variation submitted to NAMI with this information.
13. Testing the weakest configuration shall qualify other configurations. The following configurations qualify additional configurations as follows:

X = Operable Panel or Side Lite

O = Fixed Panel or Side Lite

O Testing a single fixed door system or side lite qualifies the O configuration only.

X Testing a single side hinged door system qualifies the X configuration only.

To certify a radius top door, test a rectangular door with the hinges located for the radius top door. This is considered the “worst case” scenario for hinge placement and will qualify both conditions with different hinge placement. Hinge placement for both conditions must be illustrated on production drawings submitted with testing.

If certifying to either ANSI/WDMA/CSA 101/I.S.2/NAFS-02 or 101/I.S.2/440, the provisions in those standards shall apply.

OX Testing a single fixed door system or side lite with an operable door panel or operable side lite qualifies the OX, XO, O or X configurations.

XX Testing a double operable door system qualifies the XX or X configurations.








OXO Testing a single operable door panel with a fixed lite or fixed door panel qualifies the OXO, OX, and XO, X or O configurations.

OXXO Testing a double operable door system with fixed door panels or fixed side lites qualifies the OXXO, XX, OX, XO, OXO, X, or O configurations.

O/OXXO Testing a double operable door system with fixed lites or fixed door panels with a fixed transom above qualifies O/OXXO, O/XX, O/OX, O/XO, O/OXO, O/X, O/O, OXXO, XX, OX, XO, OXO, X or O configurations.

The chart below reflects the information referenced above.

Door Assembly Qualifications

	Qualifies any single fixed side lite or single fixed door system.
	Qualifies any single side-hinged door system having the same hinge location and having no more than one operable leaf or operable side lite.
	Qualifies any single side-hinged door system or composite door system having the same hinge location and having no more than one operable leaf or operable side lite and one inoperable leaf or operable side lite, or any combination thereof.
	Qualifies any single side-hinged door system or composite unit having the same hinge location and having no more than two operable leaves or two operable side lites, or any combination thereof.
	Qualifies any single side-hinged door system or composite unit having the same hinge location and having no more than one operable leaf or operable side lite and two inoperable leaves or two inoperable side lites, or any combination thereof.
	Qualifies any single side-hinged door system or composite unit having the same hinge location and having no more than two operable leaves or two inoperable side lites and two inoperable leaves or two inoperable side lites, or any combination thereof.
	Qualifies any single side-hinged door system or composite unit having the same hinge location and having no more than two operable leaves or two operable side lites and two inoperable side lites and a transom or any combination thereof.

Section IV: Waiver of Retest or Product Variation

A Waiver of Retest or Product Variation may be submitted by a Licensee for any modification to the originally tested product. Waivers of Retest and Product Variation must be supported with industry data, testing, engineering calculations or engineering evaluations that have been signed by a professional engineer. Testing or engineering evaluations signed by a professional engineer are only permitted for the following changes:

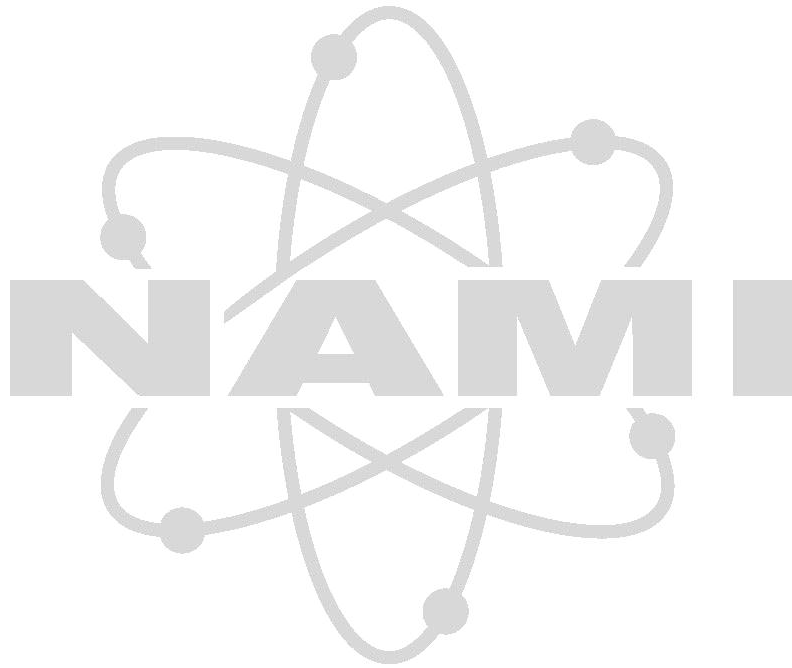
1. Change of hinge locations.
2. Change of hardware.
3. Change of frame assembly or material.
4. Change of astragals.

See further Waiver of Retest and Product Variation information in NAMI's Certification Programs Procedural Guidelines.

Section V: Labeling

NAMI will design certification labels for approved configurations. Door manufacturers may choose to label their product with the weakest design pressure of all the tested configurations so that fewer labels may be required. Labels may also display different design pressures for configurations that have been tested. (Note: Some Authorities Having Jurisdiction may not allow multiple design pressures on labels, so please verify this information prior to ordering certification labels.) All labels must be approved by NAMI.

Note: All of the guidelines within this addendum are in addition to NAMI's Certification Programs Procedural Guidelines.



APPENDIX D

NAMI'S INSULATING GLASS CERTIFICATION PROGRAM

This document is a supplement and is intended to be used in conjunction with NAMI's Certification Program Procedural Guidelines.

Section I: General

Requirements of insulating glass may vary from jurisdictions and regions in the United States, as well as International Markets. The NAMI Certification Program allows the Licensee the flexibility of having their product tested to the standard or standards which would apply to their area of distribution. The Licensee should establish which standard(s) apply to their areas of distribution.

Section II: Test Standards

NAMI's Insulating Glass Certification Program provides for equitable administration, evaluations, decisions and enforcement through the use of the standards as defined in Section 2.1 of NAMI's Certification Program Procedural Guidelines.

If any revisions are made to these referenced standards, NAMI will review the effect of such revisions on the Licensee's Products. NAMI will notify each Licensee of the date such revisions shall become effective.

Section III: Qualification Test Samples

Insulating glass test samples shall be witnessed by a Licensee's designated person in-responsible-charge. The following steps must be taken to witness the test samples:

Contact NAMI to begin the process.

Complete the NAMI Insulating Glass Test Sample Form (Form IG-TS) and return to NAMI for each sample to be tested.

NAMI shall create and forward the labels that must be placed in between the glass of the test samples by the designated person in-responsible-charge.

The labels contain critical information for the laboratory. Place a label in each of the test sample units between the glass and prior to sealing the unit. Due to adhesive contamination, just allow the label to free float within the test sample. For fogging units, tape and place the label on the outside of the test sample unit and away from the center of the unit.

Upon completion of the test samples, allow the units to cure the appropriate time period before forwarding to the laboratory.

Forward test sample units to an approved NAMI Independent Testing Laboratory (see laboratory listing at www.NAMICertification.com).

The cost of crating and shipping all prototype test samples to an approved NAMI Testing Laboratory will be borne by the manufacturer.

The licensee shall submit a copy of the Laboratory Submittal/Verification Form (Form IG-LSF) to the approved test laboratory.

The laboratory shall verify receipt of the test samples by completing the mid-section of the Laboratory Submittal/Verification Form and returning it to NAMI.

The approved laboratory will test and report findings in accordance with designated test specifications. The test report and gas fill information will be forwarded to NAMI upon completion.

Section IV: Transfer in of Existing Test Reports

If a Licensee has participated in an accepted insulating glass certification program and with testing that is less than 2 years old from a NAMI approved laboratory or falls within NAMI's nine (9) month extension period, the test report will be reviewed and upon successful review, certification will be granted. The Licensee will follow the procedures above for all future glass test samples.

Section V: Notice of Product Certification

Upon successful completion of testing and review of the test report, a Notice of Product Certification shall be issued. The Notice of Product Certification will contain a certification mark that will be unique for that product line. The certification mark will consist of:

NAMI: Denotes National Accreditation & Management Institute's Program.
XXXXXX: The first digit reflects the sample number and last five digits will be the Licensee's location identification code designated for the by NAMI.

Certification is granted for five years from the end of the initial test date.

Section VI: Conditional Approval

Due to the extensive length of insulating glass testing, conditional certification approval may be granted if the following conditions are met.

- 1) Licensee has enrolled in NAMI IG Program;
- 2) Licensee has completed Test Sample Form;
- 3) Licensee has been issued labels for test sample units;
- 4) Licensee has forwarded test samples to approved independent laboratory;
- 5) Proof has been provided that the approved testing laboratory has received the test samples (Form IG-LSF).

If the above conditions have been met, conditional certification approval will be granted. A conditional certification approval will be issued for the components declared within the test sample form for twelve months. Conditional Approval will only be granted upon receipt of the Laboratory Submittal/Verification Form (Form IG-LSF) from the laboratory stating that they have the samples in possession. The effective date of the conditional approval will be based on the most recent gas fill results for gas filled units, as received from the laboratory, or the laboratory's verified receipt date for air filled units. If further failure occurs no conditional certification approval will be granted or extended, and the manufacturer will be required to re-start the testing process, and no further labeling or approval will be permitted until successful test results have been achieved.

Insulating glass is tested with a non-destructive test methodology. NAMI may request the Licensee or testing laboratory to hold these units for destructive inspection at any time.

Section VII: In-Plant Inspections & Electronic Surveillance

In-Plant inspections and/or electronic surveillance will be performed in accordance with NAMI's Certification Program Guidelines. In-Plant inspections and/or electronic surveillance for insulating glass products will be performed bi-annually.

1. The in-plant inspection and/or electronic surveillance shall be a review of the manufactured product and verification of the components of those units to the test sample. The inspection report shall include, but not limited to the accumulation of the following information:
 - a. Manufacturer's Name/Location/Code Number
 - b. Date of in-plant inspection and/or electronic surveillance
 - c. Name of contact person or persons;
 - d. Sealant;
 - e. Spacer type;
 - f. Desiccant;
 - g. Sides of spacer filled by desiccant;
 - h. Corner key;
 - i. Any additional information.
2. In-Plant inspection and or electronic surveillance will include review of glass cutting method, cleaning machines, sealant applicators, desiccant storage and all other relevant machinery.
3. Inspections will include review of manufacturer's quality assurance program, including manual, documentation and personnel. All documentation must be maintained for a minimum period of five (5) years.
4. Inspectors shall review with the Licensee any changes in standards or NAMI documents. Updated versions of NAMI documents shall be provided where applicable.
5. The inspection data recorded is of a proprietary nature and is only used as the reference material for issuance of the formal Inspection Report which will be forwarded to the license within thirty (10) days of the inspection.

Section VIII: Re-Qualification Testing

Insulating glass is required to be re-tested every five years. If participating in the NFRC PCP program, insulating glass is required to be re-tested every two years. The test samples will be witnessed as described in Section III. All samples must be forwarded to an approved NAMI Test Laboratory.

If test samples have been submitted to a testing laboratory and testing will not be completed by the end of the five-year period, the Licensee may request a twelve-month extension from NAMI through a "Request for Extension of Insulating Glass Certification" (Form REIG). NAMI will provide a twelve-month extension for that test sample group.

In the event that the Licensee fails to submit re-test samples upon notice of and within the prescribed period of time of notice of failure, listing and certification of the product will be discontinued.

All additional sampling and re-testing expenses to reinstate failure or "conditional" failure will be borne entirely by the manufacturer.

Section IX: Application of Certification Mark

Upon notification of product certification, the manufacturer may identify each unit fabricated within that product line with the NAMI authorized certification mark. The certification mark shall only be applied to products authorized for NAMI Certification. A unit is not considered certified unless the certification mark has been applied to the product.

The manufacturer may apply the certification mark in any permanent manner as approved by the Administrator. Suitable application methods will include, but not limited to, printing on the spacer, non-removable permanent labeling, sand blasted, etched, embossing on the certified unit or if complete assembly

is certified by NAMI, placed on the certification label. If glass is certified for compliance to HUD UM82a, the words “complies with HUD UM82a”, along with the certification mark in order to meet the requirements of HUD UM82a.

Section X: In-Plant Quality Assurance Requirements

A quality assurance manual must be maintained, describing the quality assurance procedures of the manufacturing facility (see NAMI’s minimum plant QA requirements). A complete description of the expected performance and requirement for each department should be outlined within this manual.

All quality assurance activities shall be documented. Documented quality assurance records must be maintained during each shift when fabricating certified insulating glass. Records of inspection must be kept for a minimum period of five (5) years. Below are some recommendations for QA checks for insulating glass:

1. Sealant:
 - a. When using two (2) part sealant systems:
 - (1) Check appropriate proportion of base to accelerator by drum usage
 - (2) Check that proper base/accelerator combination is used.
 - b. When using hot-melt sealant systems, monitor the temperature of the sealant.
 - c. Upon opening any drum or base, accelerator, or sealant, a general check should be made for abnormal appearance. If any abnormality exists, a record must be made and the drum shall be set aside. Management shall be notified of such findings. Management will determine the action to be taken, recording such action on the quality assurance record and signing the document.
 - d. Perform adhesion checks and other recommended quality assurance checks as provided by the sealant supplier.
2. Desiccant:
 - a. The desiccant must be checked for activity as recommended by the supplier. Desiccant temperature rises shall be documented and maintained within the quality assurance records.
3. Spacer:
 - a. Spacers must be checked for defects or foreign matter deposits that would inhibit sealant adhesion.
 - b. Perform quality checks as recommended by the spacer supplier.
4. Corner Key:
 - a. Corner keys must be checked for defects or foreign matter deposits that would inhibit sealant adhesion.
 - b. Perform quality checks as recommended by the spacer supplier.
5. Assembled Finished Products:
 - a. Daily checks of labeled or marked products shall be performed and recorded. Recommend three percent (3%) of all certified finished products shall be recorded per shift. A complete inspection form, describing the inspection process for each final product shall be provided within the quality assurance manual.
 - b. Records must be kept on file with the daily general inspection records, to include:
 - (1) Visible sealant gaps;
 - (2) Lack of sealant at the shoulder of the spacer;
 - (3) Application of corner keys;
 - (4) Position of spacer in relation to edge of glass;
 - (5) Thickness;
 - (6) Minimum MVT Path;
 - (7) Size;
 - (8) Other pertinent information.

Section XI: Interpretations and Guidelines

Test specimens for certification shall be of the construction the Licensee wishes to certify. The construction of the test specimen defines the initial certification prototype. Units that are produced from the same basic components as the certification prototype can be labeled and marked as a certified unit. The basic components considered are the sealant system, desiccant system and spacer system. The generic desiccant, spacer and sealant will be determined at the time of manufacture of the test samples.

Any changes in the basic components of the insulating glass unit, requires testing. The following guidelines are published to indicate acceptable and unacceptable changes to certified products as to how they relate to marking or labeling of the changed product. (Note: If changes do not fall within the below Acceptable Category, the licensee shall notify NAMI of the pending modification and NAMI will determine if the variation requires a Waiver of Re-Test or re-testing.)

The following changes to the certified products are **ACCEPTABLE** and labeling will be permitted:

- a. Glass
 1. Change in glass thickness;
 2. Change in glass size;
 3. Change in glass tint or color;
 4. Change in glass vendor;
 4. Change in glass shape (rectangular required in test samples);
 5. Change in glass type (i.e. tempered, heat strengthened, laminated or patterned glass)
Annealed glass is normally used in test samples;
 6. Coated glass with edge deletion, provided that the coating is restricted to surfaces not in contact with the sealant.
- b. Spacer
 1. Change in air space dimension;
 2. Change in spacer wall thickness;
 3. Change in spacer seam design;
 4. Change in vendor of spacer as long as product reflects what was tested;
 5. Change in spacer profiles;
 6. Soldered, welded, brazed or bent (but uncut) corners or connections may be interchanged;
 7. Corners or connections may be changed from mechanical connections to bent-uncut corners utilizing joiners or corner keys of plastic, aluminum, stainless or galvanized steel;
 8. A licensee may use a temporary alternate integrated spacer system in the same generic class by notifying NAMI of the change. Upon the next cycle of testing, the alternate system must be tested.
- c. Desiccant
 1. Increase in amount of desiccant per inch of edge, otherwise the same number of spacers shall be filled as in the test specimen. (Example: If the test sample had two (2) long sides filled, then the product must have two (2) long sides filled. If the test sample had one (1) long side and one (1) short side filled, the production units must have one (1) long side and one (1) short side filled);
 2. Change in supplier of the same generic type of desiccant which test sample contained;
 3. Changes in desiccant particle size;
 4. Increase in the percentage of molecular sieve in a blended desiccant up to a maximum of 75%. If Licensee goes from blend to a greater than 75% then it will be considered a molecular sieve and no re-testing is required;
 5. Licensee may change the supplier of desiccant matrix by notifying NAMI of the change and providing written documentation that the adsorption capacity per perimeter edge of seal is equivalent or greater than the matrix used in the test sample. The next scheduled test sampling must include the new vendor's product.
- d. Sealant
 1. Increase in moisture vapor transmission path length;
 2. Licensee may change the supplier of an alternate sealant within the same generic class by notifying NAMI of the change. The next scheduled test sampling must include the new supplier's product.

- e. Gas
 1. Changes in gas type as long as the same fill method is used (Argon required in test samples);
 2. Units tested with gas fill will qualify air fill units.

The following changes to the certified products are **required to have a Waiver of Re-Test or Re-Testing as determined by NAMI. Please contact NAMI regarding modification. Labeling will not be permitted unless authorization is provided by NAMI:**

- a. Glass
 1. Use of glass with distorted surface in contact with the sealant when tested with a flat surface.
- b. Spacer
 1. Change in spacer material;
 2. Change in spacer surface finish (Example: Anodized to mill finish.);
 3. Change in corner key material (except if same material as spacer);
 4. Bent, uncut spacer corners or connections changed to mechanically fastened spacer corners.
- c. Desiccant
 1. Change in generic type of desiccant will require testing. Generic types are considered to be molecular sieve, blends of silica gel and molecular sieve up to 75% by weight molecular sieve. Blends that are more than 75% molecular sieve are considered to be a molecular sieve generic type of desiccant.
- d. Sealant
 1. Change in generic type of sealant in a single sealant system;
 2. Change in generic type of primary sealant in a two sealant system;
 3. Change in generic type of secondary sealant in a two sealant system;
 4. Decrease in the minimum design moisture vapor transmission path length.
- e. Gas
 1. A unit tested with air fill, will not qualify gas fill.

Section XII: Additional Guidelines

- a. Production units with more than one air space may be labeled using the same certification mark or label as single air space units provided that each air space is constructed identically to the test units.
- b. Test units without internal muntins shall not qualify production units with internal muntins for certification labeling.
- c. Units tested with capillary tubes shall qualify units without capillary tubes.
- d. Breather tubes are not required to be tested.
- e. Maximum number of mechanical connectors shall be tested. After initial testing and certification, corners or connections may be changed from mechanical connectors to bent-uncut corners using the same certification number.
- f. If qualifying Low-E coatings, test unit shall include one lite of coated glass per test sample of the most common coating the licensee supplies. A sputter coated test unit will qualify all other sputter coatings, pyrolytic coatings, as well as edge deleted and clear.
- g. When testing units for gas, units must have 90% or greater average initial gas content. After weathering cycles, units must have an 80% or greater average gas content.
- h. Triple units will qualify a double unit as long as the double unit construction is identical to one of the triple unit layers.

Note: All of the guidelines within this addendum are in addition to NAMI's Certification Programs Procedural Guidelines.

APPENDIX E

NAMI'S ON-SITE ENTRANCE DOOR GLASS ASSEMBLY CERTIFICATION PROGRAM

This document is a supplement and is intended to be used in conjunction with NAMI's Certification Program Procedural Guidelines.

Section I: General

It is common practice within the fenestration industry for door slabs to be accessed so door glass can be inserted within the field. This practice is simply taken from the manufacturing location to an on-site field application. The NAMI Entrance Door Glass Assembly Certification Program provides procedural guidelines for this on-site work so that structural design pressures that have been determined in the independent test laboratory are maintained in a field setting.

Requirements for the On-Site Entrance Door Glass Assembly may vary from jurisdictions and regions in the United States as well as International Markets. All Entrance Door Glass Products' must have testing in compliance with NAMI's Exterior Door Systems Certification Program in order to participate within this process. The Licensee should establish which standard(s) apply to their areas of distribution.

Section II: Test Standards

NAMI's Entrance Door Glass Assembly Certification Program provides for equitable administration, evaluations, decisions and enforcement through the use of the following standards (includes earlier and current versions as shown):

AAMA 506
AAMA 920
AAMA 925
AAMA 1702.2
AAMA/WDMA/CSA 101/I.S.2/A440-11
AAMA/WDMA/CSA 101/I.S.2/A440-08
AAMA/WDMA/CSA 101/I.S.2/A440-05
AMD 100
ANSI A250-13
ANSI/AAMA/NWWDA 101/I.S.2-97
ANSI/AAMA/NWWDA 101/I.S.2/NAFS-02
ASTM E283
ASTM E330
ASTM E331
ASTM E547
ASTM F476
ASTM E1886
ASTM E1996
PA 201
PA 202
PA 203
TAS 201
TAS 202
TAS 203

If any revisions are made to these referenced standards, NAMI will review the effect of such revisions on the Licensee's Products. NAMI will notify each Licensee of the date such revisions shall become effective.

Section III: Testing/Installation Requirements

Testing is an important and critical aspect of the certification process. Door glass lights that are used in the field, must have supportive test documentation in compliance with NAMI's Exterior Door Certification Program. Here are some practical guidelines and program parameters which will assist in determining the system or configuration which is permissible to be inserted in a field application.

1. Before installation begins, the door glass installer shall verify the assembly in which the product is to be glazed to verify that the door glass being installed has been tested within that assembly.
2. Verify that the assembly with the door glass light to be inserted is a tested or certified assembly and that proper certification or testing documentation is on file with the Licensor. (Installer may be able to obtain this information from a certification or private label on the field product, or from the door manufacturer or area product wholesaler.)
3. Installer must verify that the assembly has the same corner construction, frame/insert assembly, hinge and hinge locations, locking/latching hardware and installation method as the tested or certified unit.
4. The door glass light shall be of equal or smaller size of the originally tested assembly.
5. The door glass light shall be of equal thickness or greater than the originally tested assembly and in accordance with ASTM E1300.

Section IV: Quality Assurance

The Licensee shall maintain a documented quality assurance program in compliance with NAMI's requirements. In addition to NAMI's requirements, the Licensee shall maintain all documentation for a period of five (5) years. If complaints are received by the Licensee, these shall be documented and maintained on file for a period of five (5) years.

Section V: Labeling

NAMI personnel will mock-up labels for approved glazing configurations and assemblies. On-Site Entrance Door Glass Assemblers may choose to label their product with the weakest design pressure of all the tested configurations so that fewer labels may be required. Labels may also display different design pressures for configurations that have been tested. All labels must be approved by NAMI.

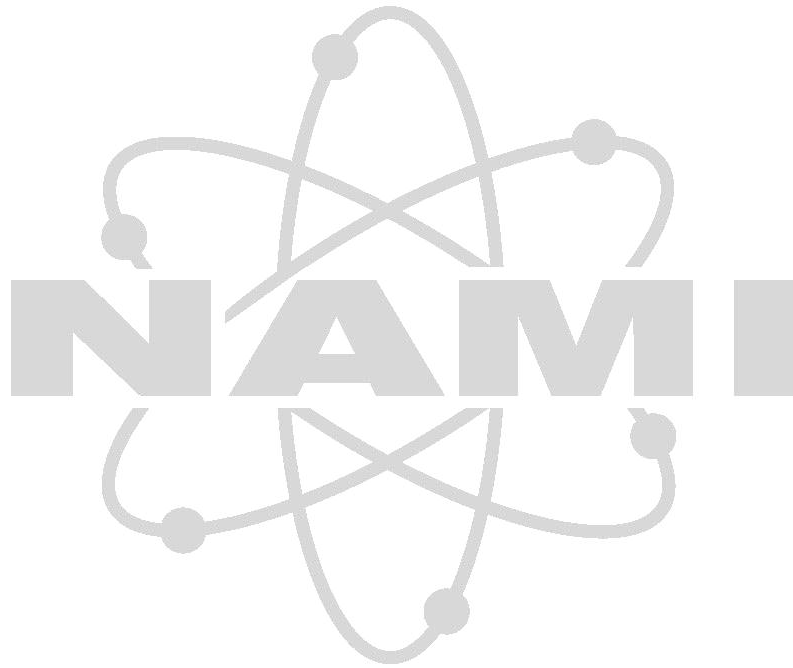
The installer shall not remove any original labels on the door. The NAMI label will reflect that the product has been modified and state what the new design pressure rating would be. (Note: The new design pressure may not exceed the original design pressure of the product.) Other procedures of labeling include:

1. Upon completion of assembly, the door glass light installer who has been designated "in-responsible" charge by the Licensee may apply a NAMI On-Site Certification Program Label to the on-site glazed door. This is to provide the inspector with the minimum design pressure of the glazed unit.
2. NAMI On-Site Certification Program Label may **NOT** be applied to any unit where changes in hinge locations, hardware, frame assembly or materials, or astragals (where applicable) have occurred.
3. The designated "person in-responsible-charge" shall maintain a list of the doors and locations where door glass assemblies were installed. Records of all installations where field certification labels were applied will be maintained for a period of five (5) years. Review of these records will be required during each annual inspection.

Section VI: Inspections

An annual inspection will be performed by NAMI for the On-Site Entrance Door Glass Assembly Licensee. Prior arrangements will be made by NAMI's Inspector to view past and present on-site field applications to verify compliance to NAMI's Certification Program Procedures.

Note: All of the guidelines within this addendum are in addition to NAMI's Certification Programs Procedural Guidelines.



APPENDIX F

NAMI'S QUALITY ASSURANCE PROGRAM

This document is a supplement and is intended to be used in conjunction with NAMI's Certification Program Procedural Guidelines.

Section I: General

This appendix serves as a guideline to define the overall requirements for documenting the quality assurance program of manufacturers holding a Florida Product Approval or a Notice of Acceptance issued by the Miami-Dade County Building Code Compliance Office, Product Control Division or other authorities having jurisdiction.

Requirements for a quality assurance program may vary from jurisdictions and regions in the United States as well as International Markets. In order for manufacturers to be compliant with the NAMI Quality Assurance Program, NAMI must provide oversight and be able to determine that the product or system is being manufactured or assembled, per the submitted description, test results, or calculations to establish continual product performance.

Section II: Reference Documents

NAMI's Quality Assurance Program provides for equitable administration, evaluations, decisions and enforcement through the use of the following reference documents (includes earlier and current versions as shown):

Section 553.843 Florida Statutes
Section 8-40 of the Code of Miami-Dade County
Miami-Dade County Administrative Order 10-3
Chapter 61G20; Product Approval
ANSI/ISO/ASQ Q9001:2000 Guide

If any revisions are made to these referenced documents, NAMI will review the effect of such revisions on the Licensee's participation. NAMI will notify each Licensee of the date such revisions shall become effective.

Section III: Quality Assurance Manual

The Licensee shall maintain a documented quality assurance program in compliance with NAMI's requirements.

Each manufacturing location shall have a quality assurance manual. The quality assurance manual shall clearly identify the manufacturer's name, street address, phone-numbers, email address and legal status and contact information for the member of the organization identified.

In the event that several manufacturing locations exist for one company, and the same manufacturing processes exist for each manufacturing facility, it is acceptable to submit one quality assurance manual with the list of locations that the manual is applicable to. However, each location must have the quality assurance manual on file at their respective locations. This shall not preclude said company from providing separate quality assurance manuals for each plant.

The quality assurance manual shall define and indicate a member of the organization, irrespective of other duties, that shall have responsibilities and authority that includes:

1. Ensuring that processes are established, implemented and maintained,
2. Reporting and resolving quality assurance issues related to third parties on matters related to the quality assurance program.
3. This person shall have direct access to top management.
4. There shall be a management statement assigning the person designated.
5. There shall be a relevant job description of personnel assigned to the quality assurance program.
6. There shall be a policy statement on qualification and training of personnel.

The quality assurance manual shall contain at a minimum the following information:

1. Manufacturer's name, street address, phone number, email address and legal status.
2. Contact information for the member responsible for oversight of the Quality Assurance Program.
3. Locations and contact information for multiple locations (if applicable).
4. Revision date.
5. Procedures for reviewing and updating the quality assurance manual for suitability, accuracy and effectiveness, at a minimum of once every 12 months.
6. Procedures for document control.
7. Procedures or processes to ensure only current documentation are used in processes directly affecting the quality of the product.
8. A production flowchart or a description of the process in which the product is manufactured.
9. Procedures for product identification, detailing the description of the product, tolerances, specifications and schematics.
10. Procedures outlining the quality checks that are conducted to ensure conformity or compliance to the product certification or requirements from Authorities having Jurisdiction.
11. Procedures for labeling, labeling control and application of the label.
12. Procedures detailing the ability to trace a product and its materials to the point of inception.
13. Procedures for the handling, identification, packaging and protection of certified products and/or products approved by Authorities having Jurisdiction.
14. Procedures detailing the actions taken to correct manufacturing defects and/or processes.
15. Procedures for documenting and correcting complaints from the general public, building officials or product control inspectors (IE: NAMI). Documentation shall contain any actions taken to prevent further occurrence.
16. Procedures for verification/inspection of incoming materials and their ability to conform to the requirements established by the product certification or Authorities having Jurisdiction's requirements.
17. Procedures for the handling, segregation and disposition of non-conforming or damaged incoming or in-process material.
18. Procedures for the verification of critical measurement devices (IE: Tape Measure and/or Calipers), including the time intervals, procedures for documenting and the traceable standards used.
19. Procedures for identification, storage, protection, retrieval, retention time and disposition of records relating to production and quality assurance.

In addition to NAMI's requirements, the Licensee shall maintain all documentation for a period of five (5) years.

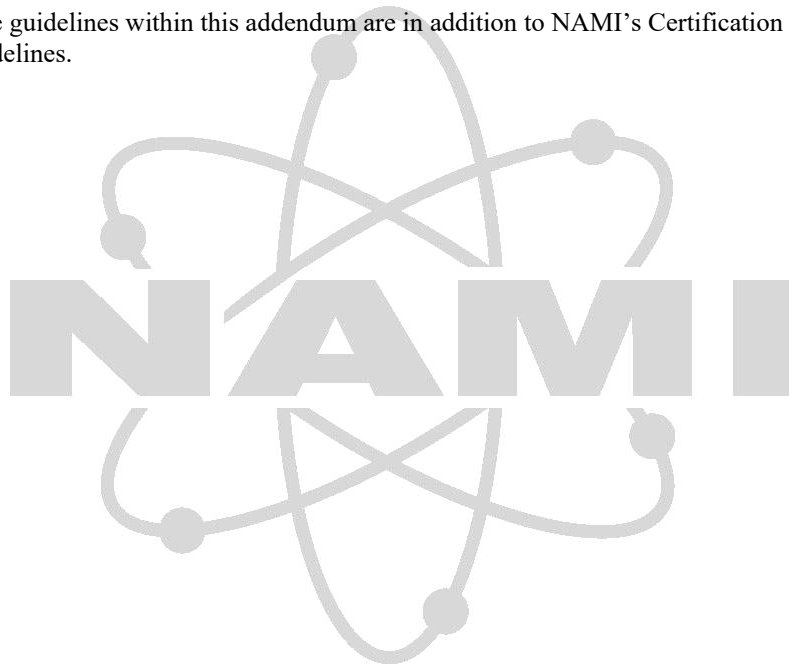
Section IV: Labeling

NAMI personnel will mock-up labels for approved products. Labels must conform to the authorities having jurisdiction's requirements. Labels may display different configurations that have been tested but must conform to jurisdictional requirements. All labels must be approved by NAMI.

Section V: Inspections

An annual inspection will be performed by NAMI for the Quality Assurance Licensee. An evaluation will be made by NAMI's Inspector of past inspections, documentation, and final product to verify compliance to NAMI's Quality Assurance Program Procedures.

Note: All of the guidelines within this addendum are in addition to NAMI's Certification Programs Procedural Guidelines.



APPENDIX G

NAMI's MANUFACTURED HOUSING CERTIFICATION PROGRAM

This document is a supplement and is intended to be used in conjunction with NAMI's Certification Program Procedural Guidelines.

Section I: General

This appendix serves as a guideline to define the overall requirements for the manufactured housing program as outlined by the Office of Assistant Secretary for Housing-Federal Housing Commission, Department of Housing and Urban Development CFR Part 3280 (applicable sections and latest document year). Manufacturers seeking certification of products for this program must meet all the requirements as defined in the sections of this document.

Section II: Reference Documents

NAMI provides for equitable administration, evaluations, decisions and enforcement through the use of the following reference documents (includes earlier and current versions as shown):

ANSI/ISO/ASQ Q9001: 2000 Guide
ISO/IEC 17065
ISO/IEC 17020
NAMI Procedural Guidelines
NAMI Procedural Guidelines Appendix A
24 CFR 3280.303
24 CFR 3280.304
24 CFR 3280.403
24 CFR 3280.404
24 CFR 3280.405
AAMA 1701.2
AAMA 1702.2
AAMA 1704
AAMA/WDMA/CSA 101/I.S.2/A440-08 (Skylights Only)

Section III: Prototype Testing

Testing is an important and critical aspect of the certification process. Here are some practical guidelines and program parameters which will assist in determining the system or configuration which should be submitted to the laboratory. Products submitted for certification consideration shall be:

1. Tested by an approved NAMI Independent Laboratory that is ISO/IEC accredited as defined in Section 2.3.
2. For AAMA 1701.2 and 1702.2, test the largest size unit and/or configuration that is to be qualified. Production units may not exceed the tested size, and must be equal or less in dimension than the prototype unit.
3. For AAMA 1704, egress products in an open position (no removal of sash or vent) shall have a minimum horizontal dimension of 20" and minimum dimension of 24" (minimum clear opening of 5 ft²) when tested in accordance with this standard.
4. AAMA 1701.2, 1702.2 and 1704 are the only recognized test standards for windows, sliding glass doors and exterior doors. Test shall be performed to the recognized standard year as defined in 24 CFR Sections 3280.403, 3280.404 and 3280.405. Verify the standard year with NAMI prior to

- testing. (If tested to the incorrect year, a letter of equivalency to the applicable standard year must be provided to NAMI by the testing facility and signed by a professional engineer (PE).
5. Skylights must meet the minimum gateway size requirements as defined in AAMA/WDMA/CSA 101/I.S.2/A440-08.
 6. Insulating glass must be tested (test standards in current 24 CFR 3280 documents are no longer in existence) in accordance with the latest ASTM Insulating Glass standards. Insulating Glass must be permanently marked with the certification mark (that identifies the manufacturer) or the manufacturer's name.

Section IV: Inspections

The manufactured housing program requires two inspections each year. Inspections will be conducted in accordance with NAMI's Procedural Guidelines. During one of the inspections, a production line unit will be chosen from the manufacturer's list of certified products.

The inspector will choose the largest size available during the inspection. The unit will be marked and photographed by the inspector. The inspector will then complete the "Manufactured Housing/Egress Production Line Testing Form (MFG HSG-PLT) and provide it to the manufacturer. The manufacturer shall submit this form, along with the selected production line unit to the test facility.

Section V: Production Line Testing

No modifications may be made to the selected production line. Licensees shall forward the unit to an approved laboratory of their choice. Testing shall be completed within 120 days of selection of the production line unit. All testing costs are borne by the manufacturer.

Section VI: Certification Label

All manufactured housing products must bear a certification label. All labels must be purchased through NAMI. Labels shall be permanent and must remain legible during normal product operation for a minimum period of five (5) years from the date of installation. The label shall contain a code traceable to the manufacturer through NAMI, and for Zone II and III, the label shall identify the design wind pressure rating.

When placing the label on the product, it must be available for viewing from the interior side of the installed unit.

Section VII: Extensions

Extension for manufactured housing will only be granted for a maximum period of two (2) years. All production line testing and inspections shall be required to be completed before extensions are granted.

APPENDIX H

NAMI'S COMPONENT MODELING APPROACH (CMA) CERTIFICATION PROGRAM

This document is a supplement and is intended to be used in conjunction with NAMI's Certification Program Procedural Guidelines and the following National Fenestration Rating Council Program Documents:

NFRC 700 Product Certification Program (PCP)
NFRC 701 Laboratory Accreditation Program (LAP)
NFRC 702 Certification Agency Program (CAP)
NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP)
NFRC 708 Calculation Entity Approval Program (CEAP)

Section I: General

NAMI is a licensed Inspection Agency for the National Fenestration Rating Council (NFRC). NFRC is located at:

National Fenestration Rating Council (NFRC)
6305 Ivy Lane, Suite 140
Greenbelt, MD 20770
Tel- (301) 589-1776
Fax- (301) 589-3884

Requirements for thermal properties of fenestration products may vary from jurisdictions and regions in the United States as well as International Markets. The NAMI Certification Program requires compliance to the NFRC Standards as required under NFRC documents and outlined in Section 2.1 of the NAMI's Certification Program Procedural Guidelines.

The National Fenestration Rating Council, Incorporated ("NFRC") has developed and operates a uniform national rating system for energy performance of fenestration products. The Rating System determines the U-factor, Solar Heat Gain Coefficient (SHGC) and Visible Transmittance (VT) of a product, which are mandatory ratings for labeling NFRC certified products, and are supplemented by procedures for voluntary ratings of products for Air Leakage (AL) and Condensation Resistance. Together, these rating procedures, as set forth in documents published by NFRC, are known as the NFRC Rating System.

The Rating System employs computer simulation and physical testing by NFRC-accredited laboratories to establish energy performance ratings for fenestration products. The Rating System is reinforced by a certification program under which NFRC-licensed parties claiming NFRC product certification shall label and certify fenestration products to indicate those energy performance ratings, provided the ratings are authorized for certification.

The requirements of the rating, certification, and labeling program are set forth in the most recent version of the NFRC 700 Product Certification Program (PCP) and the NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP). The NFRC Component Modeling Approach Certification Program rates whole fenestration products in accordance with the NFRC 100 Procedures for Determining Fenestration Product U-Factors. Glazing, spacer, and frame cross-sections, the three components that make up a fenestration product, shall be tested and rated in accordance with NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP), NFRC 100 Procedures for Determining Fenestration Product U-Factors; Sections 5.6 and NFRC 200 Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence; Section 5.6. Once approved by NFRC, the component shall be listed and maintained in an NFRC Approved Component Library Database.

The Specifying Authority is the entity who specifies the fenestration products/ systems and components, and identifies the suppliers to be used on a commercial or non-residential project in order to meet design and performance requirements. This entity may be, but is not limited to, an architect, engineer, or supplier.

In order to participate in the NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP), the specifying authority shall:

1. Enter into a license agreement with NAMI
2. Enter into a license agreement with NFRC
3. Agree to comply with all of the certification requirements specified in the NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP).
4. Notify NAMI of their selection of an Approved Calculation Entity (ACE).
5. Agree to pay all fees associated with program participation.
6. Shall rate a product to be certified in accordance with mandatory NFRC rating procedures. The component manufacturer shall have their products approved to be used to rate a fenestration product that is to be certified in accordance with mandatory NFRC rating procedures. At present, a specifying authority may elect to rate products for U-factor, SHGC, and VT, and include those ratings on the NFRC Component Modeling Approach Program Label Certificate. Optionally, Air Leakage (AL) can also be obtained using NFRC 400. U-factor, SHGC and VT ratings shall be obtained from an Approved Calculation Entity, which has been approved by NFRC in accordance with the requirements of the NFRC 708 Calculation Entity Approval Program (CEAP).

Products that are labeled with the NFRC Label or Label certificate in accordance with NFRC requirements are considered to be NFRC-certified. NFRC maintains a Certified Products Directory (CPD), listing product lines and individual products for which product certification authorization has been granted.

Section II: Standards

NAMI's Component Modeling Approach Certification Program provides for equitable administration, evaluations, decisions and enforcement through the use of the standards as defined in Section 2.1, of NAMI's Certification Program Procedural Guidelines and the following National Fenestration Rating Council Program Documents:

NFRC 700 Product Certification Program (PCP)
NFRC 701 Laboratory Accreditation Program (LAP)
NFRC 702 Certification Agency Program (CAP)
NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP)
NFRC 708 Calculation Entity Approval Program (CEAP)

If any revisions are made to these referenced standards, NAMI will review the effect of such revisions on the Licensee's Certifications. NAMI will notify each Licensee of the date such revisions shall become effective.

Section III: Role of Inspection Agency

Under the Certification Agency Program and the Inspection Agency Program, NAMI is responsible for meeting the requirements set forth in the following National Fenestration Rating Council Program Documents:

NFRC 700 Product Certification Program (PCP)
NFRC 701 Laboratory Accreditation Program (LAP)
NFRC 702 Certification Agency Program (CAP)
NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP)
NFRC 708 Calculation Entity Approval Program (CEAP)

Under these guidelines, NAMI shall:

1. Maintain written procedures and policies consistent with the requirements of the Certification Program for their duties as related to the NFRC Certification Program;
2. Implement NFRC requirements as applicable to the specifying Authority and procedures regarding product/component rating;
3. Review and approve performance values for frame cross-sections and spacers and glazing;
4. Conduct reviews of fenestration systems calculations performed by an ACE for product certification authorization;
5. Conduct documentation audit trails of selected portions of whole product system ratings for verification and challenge purposes;
6. Review label certificate formats and content;
7. Investigate potential violations or prohibited activities as set forth in the NFRC Compliance and Monitoring Program;
8. Nullify or make void a label certificate if a fenestration system listed on a label certificate is found to be non-compliant with the NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP) requirements following a documentation trail audit; Maintain data files for a minimum period of five (5) years for whole product system ratings selected for the documentation trail audit.

Section IV: Certification

Certification of fenestration products/systems shall be achieved through the use of approved component ratings and the CMA software tool, which allows for the generation of label certificates by an Approved Calculation Entity (ACE).

Label Certificates shall be issued by the selected ACE after the ACE generates a calculation report utilizing the CMA software tool, which interfaces with the component library and calculates whole product performance ratings using data from each of the three components of the fenestration system (glazing infill, spacer, and framing system).

Once a product is referenced in an NFRC label certificate, it is NFRC-certified. These products are listed in the CMAST Certified Products Directory with a unique CMAST Certified Products Directory Number, which is also reflected on the label certificate for verification purposes.

Products that cannot be rated using the CMA software tool shall be physically tested by an NFRC Accredited Testing Laboratory to determine NFRC ratings.

NFRC label certificates shall be issued for fenestration products/systems that are installed in a commercial or non-residential building and are project-specific. Therefore, no recertification of these products is required.

Certified fenestration products/systems may be used in other projects by other Specifying Authorities without requiring further product certification.

Certified products used in additional projects maintain their unique CMAST Certified Products Directory Number in the CMAST Certified Products Directory as well as in the subsequent label certificate(s) issued.

Section V: Component Submittal Reviews for Component Approval

Simulation and testing is an important and critical aspect of the certification process for thermal properties of fenestration products. All products submitted to NAMI for certification consideration must undergo simulation, testing and rating (if required) in order to be compliance with the applicable NFRC program requirements.

The Rating System utilized by NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP) employs computer simulation and physical testing by NFRC-accredited laboratories to

establish energy performance ratings for fenestration products and components that will be utilized in fenestration product projects.

All components utilized in a fenestration product certified using the NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP) shall be in compliance with the guidelines as set forth by the NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP)

Glazing shall be approved using the requirements set forth under the NFRC 300 Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems and NFRC 302 Verification Program for Optical Spectral Data.

Glazing layers created in Optics per the NFRC 303 Creating a Laminate in Optics for NFRC and NFRC 304-2007 Creating an Applied Film Layer in Optics for NFRC shall be created by an NFRC accredited simulation laboratory and shall be approved by NAMI prior to use in a CMA Label Certificate.

Spacer Component Approval is dependent on the requirements set forth in the NFRC 100 Procedures for Determining Fenestration Product U-Factors for inclusion in the component library and shall be subject to the additional requirements outlined in the NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP) depending on the approval path chosen by the manufacturer.

Frame Component Approval is dependent on the requirements set forth in the NFRC 100 Procedures for Determining Fenestration Product U-Factors and NFRC 200 Incidence Gain Coefficient and Visible Transmittance at Normal Procedure for Determining Fenestration Product Solar Heat for inclusion in the component library and shall be subject to the additional requirements outlined in the NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP).

Selected framing systems shall be physically tested in accordance with the NFRC 100 Procedures for Determining Fenestration Product U-Factors and NFRC 102 Procedures for Measuring the Steady-State Thermal Transmittance of Fenestration Systems, and shall conform to all frame grouping rules. Validation shall be determined by the NFRC 100 Procedures for Determining Fenestration Product U-Factors equivalence criteria

The Rating System is reinforced by a certification program under which NFRC-licensed parties claiming NFRC product certification shall label and certify fenestration products to indicate those energy performance ratings, provided the ratings are authorized for certification.

In accordance with the NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP), NAMI shall:

1. Review the submitted information for spacer component approval for inclusion in the component library (when utilizing path II for spacer component approval), shall review the submitted information and calculation for the spacer and edge-seal assembly consisting of spacer component and default sealants k_{eff} .
2. Notify the Accredited Simulation Laboratory and/or the entity seeking spacer component approval, of any discrepancies in the submitted information or calculation (when utilizing path II for spacer component approval). Once all discrepancies have been resolved, NAMI shall approve the spacer component entry into the component library within fifteen (15) business days. A unique ID number shall be assigned by the NFRC CMA software tool.
3. Notify the entity seeking spacer component approval of the spacer's inclusion in the component library (when utilizing path II for spacer component approval).
4. Review the submitted information for the spacer and compatible sealants (when utilizing path III for spacer component approval).
5. Notify the Accredited Simulation Laboratory and/or the entity seeking spacer component approval, of any discrepancies in the submitted information. Once all discrepancies have been resolved, NAMI shall approve the spacer component within fifteen (15) business days. A unique ID number shall be assigned by the NFRC CMA software tool. NAMI shall notify the entity

- seeking spacer component approval of the spacer's inclusion in the component library (when utilizing path III for spacer component approval).
6. Review the laboratory report(s) to determine whether the frame component values have been correctly determined in accordance with NFRC 100 Procedures for Determining Fenestration Product U-Factors and NFRC 200 Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.
 7. Notify the framing system manufacturer and/or Accredited Simulation Laboratory of any discrepancies in the submitted information or calculation. Once all discrepancies have been resolved, NAMI shall assign approved status for the frame component in the component library.

Spacer Component Approval is dependent on the requirements set forth in the NFRC 100 Procedures for Determining Fenestration Product U-Factors for inclusion in the component library and shall be subject to the additional requirements outlined in the NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP) depending on the approval path of the Spacer Manufacturer.

If there is any discrepancy between frame component, spacer, and edge-seal assembly performance determined by NAMI and Accredited Simulation Laboratory, the entity seeking approval may accept or appeal NAMI's determination to the Technical Interpretation Policy Committee (TIPC) in accordance with NFRC Operating Procedures.

Section VI: Approved Calculation Entity (ACE) Calculation Review

In accordance with the requirements set forth in the NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP) and the NFRC 702 Certification Agency Program (CAP), the Approved Calculation Entity (ACE) shall be subject to Quality Assurance Reviews as directed by the NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP) and the NFRC 708 Calculation Approval Program (CEAP)..

1. Review calculations performed by the ACE for label certificates.
2. Review the whole product rating calculation performed by the ACE to ensure that the NFRC fenestration product/system rating is accurately reflected on the label certificate and complies with all NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP) requirements.
3. Utilize the NAMI-ACE Calculation Review Form (NFRC-ACE review-current revision), when conducting reviews of calculations performed by the ACE for label certificates.
4. Conduct the review within ten (10) days of receipt of the calculation information and shall notify the ACE and Specifying Authority of any discrepancies or missing information.
5. Shall notify the ACE, Specifying Authority, and NFRC by issuing a "Notice of Non-Compliance," if it is determined that a deficiency exists with regards to the whole product rating calculation.
6. Shall issue a "Notice of Revocation", if the ACE does not take corrective action within thirty (30) days after the date of the "Notice of Non-Compliance."
7. Shall perform "Selection for Inspection Agency Reviews" as required to include the following:
 - a. Shall review the calculations associated with the first five (5) certificates submitted by a specific Independent ACE or a specific Manufacturer / Other ACE.
 - b. Afterwards, if the ACE qualifies for the statistical auditing program in accordance with the NFRC 708 Calculation Entity Approval Program (CEAP), the calculations associated with each label certificate submitted by the ACE shall have a 1 in 10 chance of being selected for review, as determined by the CMA software tool when the certificate is issued.
 - c. Shall review the calculations associated with each certificate generated by the ACE if the ACE does not qualify for the statistical auditing program in accordance with the NFRC 708 Calculation Entity Approval Program (CEAP).
 - d. Shall follow the grading procedures and criteria as set forth in the NFRC 708 Calculation Entity Approval Program (CEAP).
 - e. Shall utilize the NAMI-ACE Calculation Review Form (NFRC-ACE review-current revision) when performing "Selection for Inspection Agency Reviews".

- f. The results of the reviews shall be documented and retained on file for a period of five (5) years.

If a submitted label certificate is subject to review, the Independent ACE may issue the certificate prior to completion of the review, but shall be responsible for making any necessary corrections and notifications in accordance with the provisions of Section 5.1 of the NFRC 708 Calculation Entity Approval Program (CEAP).

If a submitted label certificate is subject to review, a Manufacturer / Other ACE shall not issue the certificate until completion of the review.

Section VII: Documentation Trail Audit

The documentation trail audit shall be performed by an Inspection Agency chosen by the Specifying Authority. If selected by the specifying authority, NAMI shall:

1. Conduct an audit of the documentation trail of the Specifying Authority's fenestration products/systems to ensure that the products listed in the issued label certificate are reflective of the actual systems supplied for a particular project, and comply with all NFRC 705 Component Modeling Approach Product Certification Program (CMA PCP) requirements.

The following documentation shall be provided by the specifying authority to facilitate the audit.

1. Copy of project specification sections for the glazing infill and framing system(s).
2. Copies of any change orders affecting the primary glazing infill and framing system(s).
3. Copy of the glazing contractor's primary purchase order for glazing infill and framing system(s).
4. Copy of the glazing infill and framing system manufacturers' primary order acknowledgements.
5. Copy of the glazing infill and framing system manufacturers' material shipment documents.

After issuance of the label certificate, each certificate shall have a 1 in 20 chance of being selected for a documentation trail audit. Selection for audit shall be determined by the CMA software tool when the certificate is issued.

Audits shall not exceed two per year for each specifying authority, if the audits conducted uncover no substantive issues.

The Specifying Authority shall have thirty (30) days from the date of notification within which to submit the required documentation.

An audit shall be conducted within fifteen (15) days of the receipt of the required documentation and shall notify the Specifying Authority of any discrepancies or missing information.

If, upon review of the documentation provided by the Specifying Authority indicates that a discrepancy exists with any of the fenestration products/systems reflected in the label certificate and supplied at the project location, and then a Notice of Non-Compliance shall be issued to the Specifying Authority.

The Specifying Authority shall take corrective action or acquire a new label certificate reflecting the performance rating values of the actual products/systems supplied to the project location.

If no corrective action is taken within fifteen (15) days of notification, then the Label Certificate shall be deemed null and void.

NFRC shall be notified and shall have the right to issue a "Notice of Revocation" if the Specifying Authority does not take corrective action within thirty (30) days after the date of the "Notice of Non-Compliance."

Electronic files of each audit shall be maintained for a period of five (5) years.

APPENDIX I

**NAMI'S FIRE
CERTIFICATION AND LISTING PROGRAM
PROCEDURAL GUIDE FOR
FIRE DOORS
AND OTHER PROTECTIVE OPENINGS**

This document is a supplement and is intended to be used in conjunction with NAMI's Certification Program Procedural Guidelines.

Section I: Test Standards

The NAMI Fire Certification and Listing Program for Fire Doors and other protective equipment provides for equitable administration, evaluations, decisions and enforcement through the use of the following standards:

NFPA 80	Standards for Fire Doors and Other Opening Protectives
NFPA 252	Fire Tests of Door Assemblies
NFPA 257	Fire Tests of Window Assemblies
ISO 3008	Fire Tests of Door Assemblies
ISO 3009	Fire Tests of Window Assemblies
UL 10A	Tin-Clad Doors
UL 10B	Fire Tests of Door Assemblies
UL 10C	Positive Pressure Fire Tests of Door Assemblies
UL 9	Fire Tests of Window Assemblies
CAN/ULC S104	Method for Fire Test of Door Assemblies
UBC 7-2	Fire Test of Door Assemblies
UBC 7-3	Tin-Clad Door Assemblies
UBC 7-4	Fire Tests of Window Assemblies
UL 1784	Air leakage Tests of Door Assemblies
NFPA 105	Standards for the Installation of Smoke Door Assemblies and Other Opening Protectives
ASTM E84	Standard Test Method for Surface Burning Characteristics of Building Materials
UL 723	Test for Surface Burning Characteristics of Building Materials
Chapter 12-7A	Materials and Construction Methods for Exterior Wildfire Exposure

If any revisions are made to these referenced standards, NAMI will review the effect of such revisions on the Licensee's Products. NAMI will notify each Licensee of the date such revisions shall become effective.

All entities used in NAMI's certification operations (i.e. testing, inspection and certification) shall be in compliance with ISO/IEC 17065/17025/17020 and ISO/IEC 17030/TR 17026.

Section II: General Requirements

Requirements for fire resistant properties of fenestration products may vary from jurisdictions and regions in the United States as well as International Markets. The NAMI certification and listing program for Fire Doors and Other Protective Openings is intended to assist regulatory bodies to determine compliance of door assemblies for use in locations where fire resistance of a specified duration is required. It is the manufacturer's responsibility to ensure that the product complies with any jurisdictional or regional requirements for which the product is to be distributed.

The rating or classification is not representative of all fire conditions, which vary with changes in the amount, nature and distribution of fire loading, ventilation, compartment size and configuration and heat sink characteristics of the compartment. The rating or classification serves only to provide a relative measure of fire performance of door assemblies under the specified fire exposure conditions.

The NAMI Fire Certification and Listing Program for Fire Doors and Other Protective Openings are intended to evaluate the ability of the door assembly to remain in an opening during a predetermined test exposure. Any variation from the construction or conditions, to which the rating and classification are based on from review and testing, is capable of substantially changing the performance characteristics of the assembly. Therefore, any deviation of construction methods and materials used in construction of the certified product must be approved by NAMI and shall be in conjunction with any applicable requirements of the standards to which the product was tested.

Certification for the product shall be provided indefinitely based on the original test date of the test report, provided the governing standards and specification to which the product rating/classification is based on, changes the requirements.

NAMI grants these ratings/classifications based on the reasoning that continuous inspections have been performed to verify that no changes or unauthorized modifications have been made during the period of certification at the Licensee's manufacturing locations.

Certification shall be maintained as long as no unauthorized modifications have been made to the product. Re-testing will be required if modifications are made and/or if new or revised standards which may require retesting have been introduced to the industry. NAMI will notify participants of pending or required changes to new or changed standards and the requirements needed to meet these standards.

The NAMI Fire Certification and Listing Program for Fire Doors and Other Protective Openings does not provide for the following conditions:

1. A rating or classification for any product other than those for which the rating or classification was issued.
2. An evaluation of the degree by which the door assembly contributes to the risk of fire by generation of smoke, toxic gases, or other products of combustion.
3. A temperature limit on the unexposed side of the of the door assembly.
4. A limit on the number of openings intended in glazed areas or the number and size of lateral openings between the door and the frame.
5. A measurement as to the degree of control or limitation of the passage of smoke or products of combustion through the door assembly.

A fire door assembly shall consist of components that are separate products which are incorporated into an assembly and allowed to have their own subcomponents. All hardware required for the installation of fire doors shall meet the requirements as set forth in the NFPA 80. Hardware for fire doors shall be referred to as builders hardware and fire exit hardware. Builders hardware shall consist of hinges, locks and latches, top and bottom bolts and door closers, but are not limited to include an astragal, an automatic louver, a coordinator, flush or surface bolts, gasketing, a holder/ release device, protective plates and glazing materials. Fire exit hardware consists of exit devices that have been labeled for both panic and fire protection.

Modification of the fire door assembly is not permitted without the approval of NAMI. Preparation of fire door assemblies for locks, latches, hinges, remotely operated or remotely monitored hardware, concealed closers, glass lights, vision panels, louvers, and astragals, and the application of plant-ons and laminated overlays shall be performed at the point of manufacture. Job-site preparation is allowed providing that no more than a maximum of $\frac{3}{4}$ " (19mm) of the material is removed from the door to allow for undercutting and protection plates. Additionally, no holes shall be permitted in the door assembly except to mount cylinders, spindles, similar operational elements and through bolts, providing that the holes do not exceed a diameter of 1" (25.4mm) with the exception of cylinders. Trimming for height is not allowed on steel doors.

All maximum clearances between the door and frame shall comply with the applicable standards to which the assembly or component was tested to. Such clearances shall be referenced in the test report and shall be verified against the applicable standards for compliance.

All “clad” wooden core doors shall meet the requirements as set forth in the UL-10A or shall be tested in accordance with the NFPA 252, UL-10B or UL-10C in order to determine product performance.

“Clad” wooden core doors that are manufactured in accordance with the requirements set forth in the UL-10A and can qualify for the 3, 1-1/2, or ¾ hour ratings in accordance with the UL-10B.

Installation instructions shall accompany each labeled product.

In general, single-point locks or latches with ½” minimum latch throw are intended for single-swing doors, and latches with ¾” minimum latch throw are intended for the active door of doors mounted in pairs with the inactive door provided with top and bottom flush or surface bolts of the manual, automatic, or self-latching type and shall comply with the positive pressure test requirements as set forth in the UL-10C. Single-point locks or latches shall not be provided with lever handles or paddles.

NAMI will accept testing and/or engineering equivalency documents and listing reports from independent accredited laboratories for certification consideration. If a Licensee prepares to submit a prototype unit for testing, NAMI must be notified within thirty (30) days prior to sample selection and manufacture. Traceability of the test sample must be established. An individual-in-responsible charge will be appointed by NAMI to witness the selection, verify composition, manufacturing techniques and quality assurance processes.

Only labeled fire resistance-rated glazing material meeting applicable safety standards shall be used in fire door assemblies.

Fire doors and fire door assemblies utilized as a smoke and draft control door must comply with the requirements as set forth in UBC-7-2 and UL-10C, parts I and II or have been tested and listed in accordance with the requirements as set forth in the UL-1784 and the NFPA 105.

In any instance where a discrepancy exists between the product, testing, procedural guidelines and/or certification, the Licensee has the responsibility for making the necessary corrections so that the product will meet the specifications and procedures stated therein.

The NAMI Fire Certification and Listing Program allow the Licensee the flexibility of having their product tested to the standard or standards which would apply to their area of distribution. The Licensee should establish which standard(s) apply to their areas of distribution.

Participation in the NAMI Fire Certification and Listing Program for Fire Doors and other protective equipment will require entering into a license agreement with NAMI to perform the certification services as described in this appendix. The agreement will remain in effect for a one year period and shall automatically be renewed unless terminated in writing by a manufacturer a minimum of sixty (60) days prior to contract termination. NAMI shall have the right to terminate the license agreement prior to an expiration date for:

1. Non-payment of licensing or labeling fees;
2. Licensee’s non-compliance to correct deficiencies found during inspection or any other manner;
3. Improper or unauthorized use of Label or Certification Mark;
4. Licensee’s non-compliance with any terms of the license agreement or procedural guide.

Participation in the NAMI Fire Certification and Listing Program for Fire Doors and other protective equipment will require the Licensee to maintain at each manufacturing location the following:

1. A current copy of the NAMI Procedural Guidelines;

2. The Certification and Listing Report for all products manufactured at that location;
3. An up to date copy of the company's quality assurance manual;
4. The test reports for all products manufactured at that location.

NAMI reserves the right to witness all certification tests.

Testing and certification is voluntary, therefore, a manufacturer may choose to test to a complete designated specification or to specific performance requirements only. Certification documentation will reflect what the product was tested to.

Section III: Specific Requirements

Fire Doors

This category covers fire doors certified in the following categories: Access, Bullet-Resisting, Chute, Curtain, Dumbwaiter, Freight Elevator, Passenger Elevator, Rolling Steel, Service Counter, Sliding, Special Purpose, Swinging, and Swinging, Positive Pressure Tested Type Doors.

Fire doors are designed for the protection of openings in walls and partitions against fire when installed in accordance with ANSI/NFPA 80, "Standard for Fire Doors and Fire Windows."

The rating of 4-, 3-, 1-1/2-, 1-, 3/4-hours, 30 or 20 minutes indicates the duration of exposure to fire. As indicated in the individual certifications, some manufacturers can furnish sliding and swinging type doors that are certified for 4 hours.

A temperature rise rating of 250°F, 450°F or 650°F on the certification mark applies to the temperature rise developed on the unexposed surface of the door after the first 30 min of fire exposure. Certification marks which do not indicate a temperature rise are for doors which develop a temperature rise in excess of 650°F on the unexposed surface of the door. All doors with glass lights in excess of 100 sq in. are not eligible for a temperature rise rating. Doors with glass light panels of 100 sq in. or less carry the same rating as similar doors without glass vision panels.

Glazing materials covered under this category are certified as to fire resistance only. The glazing materials are intended to be installed in the fire doors in accordance with NFPA 80 and the installation instructions provided by the manufacturer of the door, glass light frame or glazing material. See Fire Door Glass Light Frames and Fire-protection-rated Glazing Materials.

A door prepared at the factory for a glass light includes the glazing members (frame) but normally does not include the glazing itself. Glazing materials are usually provided by other than the door manufacturer and installed at the time of the door installation.

The protection of an opening depends not only upon the use of fire doors, but also upon the use of listed door frames and other listed accessories as specified under each door type. Prospective users should first ascertain from Authorities Having Jurisdiction which door type, mounting, listed hardware, listed door frame, and listed closing mechanism are acceptable for a specific location.

While doors of the freight elevator type, rolling steel type, and sliding or swinging steel-covered composite type, hollow-metal type, metal-clad (Kalamein) type, sheet-metal type and tin-clad type exceeding the sizes recorded in the tabulations under their respective types have not been subjected to fire tests, a certificate for Oversized Fire Door can be provided for door assemblies in compliance (except for size), with all requirements for design, materials and construction. The oversize certificate can be a separate certificate or a label certificate affixed to the door assembly.

Similarly, an attached or separate certificate for Passenger Elevator Fire Door Frame Assemblies incorporating a transom panel can be provided when such frame/transom panel assemblies, designed for use with specific certified Passenger Elevator Fire Doors and Listed Passenger Elevator Fire Door Hardware, exceed the maximum heights which have been subjected to Standard Fire Tests. As with the oversize doors described above, prospective users should first ascertain from the Authority Having Jurisdiction whether the oversize frame assembly is acceptable for any given location.

Fire door assemblies are tested in accordance with NFPA 252, ANSI/UL 10B or ANSI/UL 10C. The furnace pressure is neutral during tests conducted in accordance with NFPA 252 or ANSI/UL 10B. The furnace pressure is positive during tests conducted in accordance with ANSI/UL 10C (UBC Standard 7-2, Part I, 1997).

To assist in selecting components of fire door assemblies tested under positive pressure, eight categories, identified as A through J, were established.

Category A Doors — A fire door that does not require the addition of other components such as edge seals to comply with positive pressure requirements. It also includes doors that have been prepared with edge seals in the manufacturing process. See *Swinging-type Fire Doors, Positive-pressure Tested* for the individual certifications.

Category B Doors — A fire door that requires the addition of an edge seal to comply with the positive pressure requirements. The edge seals are added to the door edge or to the frame. See *Swinging-type Fire Doors, Positive-pressure Tested* for the individual door Classifications. See *Gasketing and Edge-sealing Materials for Fire Doors, Positive-pressure Tested* for the Category G Edge Sealing Systems individual certifications.

Category C Frames — A fire door frame that plays an integral part in the door assembly in complying with the positive pressure requirements. Three-sided hollow metal frames are generally not required to be positive pressure tested. See *Fire Door and Window Frames* for a listing of those manufacturers that can provide steel frames.

Category D Door/Frame Assemblies — A door and frame assembly that is labeled as assembly. Category D door and frame assemblies are listed under *Special-purpose Fire Doors*.

Category F Light Kits — Light kits that have been investigated for positive pressure. See *Fire Door Glass Light Frames* for the Listings of the positive pressure glass light frames investigated to positive pressure.

Category G Edge Sealing Systems — Edge seals that are surface applied to frames or doors. These seals may or may not have an effect on meeting the leakage requirements for the smoke ("S") rating. See *Gasketing and Edge-sealing Materials for Fire Doors, Positive-pressure Tested* for the Category G Edge Sealing Systems individual certifications.

Category H Smoke and Draft Control Gasketing — Gasketing materials that are added to a door assembly to comply with the requirements of UBC 7-2 Part II (1997). See *Gasketing and Edge-sealing Materials for Fire Doors, Positive-pressure Tested* for the Category H Smoke and Draft Control Gasketing for the individual certifications.

Category J Gaskets — Gasketing materials that are added to a door assembly for purposes other than Category G Edge Seals and Category H Smoke and Draft Control Gaskets. They are used for purposes such as weather stripping and for sound control. They meet the requirements for positive pressure tests and can be used on these assemblies. These gasket materials do not contribute to the doors meeting the positive pressure fire test. They are only investigated so that they do not contribute to flaming when tested to the positive pressure test requirements.

Swinging-type Fire Doors

This category covers swinging-type fire doors consisting of the following constructions: composite, hollow-metal, metal-clad, sheet-metal, tin-clad and wood core.

Swinging-type fire doors are intended for installation in concrete, masonry and non-masonry walls.

Doors swinging in pairs in the same direction and double-egress doors swinging in opposite directions bearing the 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Fire Tested Without Hose Stream certification mark may be provided with or without an astragal by some manufacturers as indicated in the individual certifications.

Tin-clad fire doors having 14 x 20 in. metal sheets are intended to be provided with vents as specified in ANSI/NFPA 80, "Fire Doors and Fire Windows," to provide the protection indicated.

Glazing materials referenced in this category are certified as to fire resistance only. The glazing materials are intended to be installed in fire doors in accordance with ANSI/NFPA 80 and the installation instructions provided by the manufacturer of the door, glazing frame members or glazing materials. See Fire Door Glass Light Frames and Fire-protection-rated Glazing Materials.

Doors bearing 4 hour Certification marks are not intended to be provided with vision panels.

Doors bearing the 3, 1-1/2 or 1 hour certification marks may be provided with certified glazing materials for the vision panel. The sum of the exposed glazing area should not exceed 100 sq in. per door and the width and height should not exceed 12 and 33 in., respectively. Doors rated for 3 hours and provided with a vision panel are intended for the protection of openings as specified in the applicable sections of specific building codes.

Doors bearing 3/4 hour, 30 min. or 20 min., certification marks may be provided with one or more certified glazing materials for the lights. The exposed area of each light should not exceed 1296 sq in. with no dimension exceeding 54 in.

Doors bearing the Twenty-minute-type Door Fire Tested without Hose Stream certification marks may be provided with one or more certified glazing materials for the lights. The exposed area of each light should not exceed 1296 sq in. with no dimension exceeding 54 in. (except as indicated in the individual certifications).

Certified 1/4 in.-thick wired glass, as well as other types of certified glazing material, are covered under Fire-protection-rated Glazing Materials. The glazing material is intended to be installed in accordance with the manufacturer's instructions to provide the protection indicated.

A door prepared at the factory for a light includes the glazing frame members, but generally does not include the glazing material. The glazing material (glass) is usually provided by other than the door manufacturer and is installed in the field at the time of the door installation.

Doors bearing the 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Fire Tested without Hose Stream Certification mark may be provided with a listed fire door louver by some manufacturers as indicated in the individual certifications.

Authorities Having Jurisdiction should be consulted before installation.

Single-swing composite, hollow-metal and wood-core Dutch-type doors bearing the 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Fire Tested Without Hose Stream Certification mark may be provided by some manufacturers as indicated in the individual Classifications.

A horizontal astragal should be provided between the top and bottom door leaves.

Hollow-metal single-swing and pairs of doors swinging in the same direction bearing the 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 20 min or Twenty-minute-type Door Fire Tested Without Hose Stream certification mark may be provided with stainless-steel door faces by some manufacturers as indicated by the individual certifications.

Doors bearing the 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Fire Tested without Hose Stream certification mark may be provided with stainless-steel cladding or other types of cladding material by some manufacturers as indicated in the individual certifications.

Single-swing doors bearing the minimum latch throw marking and the 4 hour, 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Fire Tested Without Hose Stream certification mark should be provided with listed single-point locks or latches with a minimum 1/2-in. throw (except as indicated in the individual manufacturer's certification mark) to provide the protection indicated.

Single-swing doors bearing the fire-exit hardware marking and 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Fire Tested without Hose Stream Certification mark should be provided with listed mortise or rim type fire-exit hardware to provide the protection indicated.

Doors swinging in pairs (same direction) bearing the minimum latch-throw marking and the 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Fire Tested Without Hose Stream Certification mark should be provided with Listed single-point locks or latches with a minimum 3/4-in. throw (except as indicated in the individual manufacturer's certification mark) and listed top and bottom flush bolts or surface bolts to provide the protection indicated.

Doors swinging in pairs (same direction) bearing the fire-exit hardware marking and 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Fire Tested Without Hose Stream certification mark should be provided with a listed mortise-type fire-exit hardware device and/or a listed vertical-rod-type fire-exit device to provide the protection indicated. For doors rated up to and including 1-1/2 hour, a listed vertical-rod-type fire-exit hardware device may be used on both doors, if the doors are so prepared by the door manufacturer.

Double-egress doors (doors swinging in pairs - opposite direction) bearing the 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Fire Tested Without Hose Stream certification mark should be provided with listed vertical-rod fire-exit hardware devices to provide the protection indicated.

Hollow-metal-type doors may be provided with listed two- or three-point locks or latches.

Corrugated sheet metal and tin-clad-type doors should be provided with listed swinging Fire Door Hardware to provide the protection indicated.

Doors should be provided with hinges, pivots or olive knuckles in accordance with the specifications in ANSI/NFPA 80.

Corrugated sheet-metal and tin-clad doors should be provided with listed surface applied hinges to provide the protection indicated. See Fire Door Hardware.

Doors should be installed in listed door frames to provide the protection indicated. See Fire Door and Window Frames.

Doors should be provided with door closers in accordance with ANSI/NFPA 80.

The following tabulation of doors is provided as a reference. The maximum door sizes will vary for each individual certification.

Composite Type

Composite doors include steel-covered-, wood-covered- and plastic-covered-type fire doors. They consist of a manufactured core material with steel edges, untreated wood edges or chemically impregnated edges and face sheets of steel, wood veneer or laminated plastic. Steel-covered composite doors are rated up to 3 hours. Wood-covered and plastic-covered composite doors are rated up to 1-1/2 hour.

Sizes:

Type of Door	Maximum Size of Opening	
	Width	Height
Swinging, single (steel-covered)	4 ft, 0 in.	10 ft, 0 in.
Swinging, single (plastic-covered)	4 ft, 0 in.	10 ft, 0 in.
Swinging, single (wood-covered)	4 ft, 0 in.	10 ft, 0 in.
Swinging in pairs (steel-covered)	8 ft, 0 in.	8 ft, 0 in.
Swinging in pairs (steel-covered)	8 ft, 0 in.	8 ft, 0 in.
Swinging in pairs (plastic-covered)	8 ft, 0 in.	9 ft, 0 in.
Swinging in pairs (wood-covered)	8 ft, 0 in.	9 ft, 3 in.

Hollow-metal Type

Hollow-metal doors consist of formed steel of the flush and paneled designs. Hollow-metal doors are rated up to 3 hours.

Sizes:

Type of Door	Maximum Size of Opening	
	Width	Height
Swinging, single	4 ft, 0 in.	10 ft, 0 in.
Swinging in pairs	8 ft, 0 in.	10 ft, 0 in.

Metal-clad Type

Metal-clad (Kalamein) doors consist of the flush and paneled designs having metal-covered wood members. Metal-clad doors are rated up to 1-1/2 hour.

Sizes:

Type of Door	Maximum Size of Opening	
	Width	Height
Swinging, single	4 ft, 0 in.	10 ft, 0 in.
Swinging in pairs	8 ft, 0 in.	10 ft, 0 in.

Sheet-metal Type

Sheet-metal doors consist of formed steel of the corrugated, flush and paneled designs. Sheet-metal doors are rated up to 3 hour.

Sizes:

Type of Door	Maximum Size of Opening	
	Width	Height
Swinging, single	6 ft, 0 in.	12 ft, 0 in.
Swinging, single*	4 ft, 0 in.	8 ft, 0 in.
Swinging in pairs	10 ft, 0 in.	12 ft, 0 in.
Swinging in pairs*	8 ft, 0 in.	7 ft, 2 in.

* Bearing the notation "FIRE DOOR TO BE EQUIPPED WITH FIRE EXIT HARDWARE"

Tin-clad Type

Tin-clad doors consist of two- or three-ply wood core construction covered with galvanized steel or terneplate. Tin-clad doors are rated up to 3 hour.

Sizes:

Type of Door	Maximum Size of Opening	
	Width	Height
3-ply swinging, single	6 ft, 0 in.	12 ft, 0 in.
3-ply swinging in pairs	10 ft, 0 in.	12 ft, 0 in.
2-ply swinging, single	6 ft, 0 in.	10 ft, 0 in.
2-ply swinging in pairs	10 ft, 0 in.	10 ft, 0 in.

Wood-core Type

Wood-core doors consist of a wood block or wood particleboard core material with untreated wood edges and face sheets of wood veneer, hardboard or plastic laminate. Wood-core doors are rated 20 or 30 min.

Sizes:

Type of Door	Maximum Size of Opening	
	Width	Height
Swinging, single - 20 min	4 ft, 0 in.	10 ft, 0 in.
Swinging, single - 30 min	4 ft, 0 in.	9 ft, 0 in.
Double-egress doors - 20 min	8 ft, 0 in.	8 ft, 0 in.

TWENTY-MINUTE-TYPE DOOR ASSEMBLIES FIRE TESTED WITHOUT HOSE STREAM

Twenty-minute-type Door Assemblies Fire Tested Without Hose Stream exposure are intended for use as door assemblies designed for the protection of openings in walls and partitions as specified in the applicable sections of the Model Building Codes.

The 20 min rating indicates the duration of fire exposure only. These 20 min type door assembly components have not been subjected to a hose stream exposure.

Sizes:

Type of Door	Maximum Size of Opening	
	Width	Height
Swinging, single	4 ft, 0 in.	8 ft, 0 in.
Swinging in pairs	8 ft, 0 in.	8 ft, 0 in.

For swinging doors tested to positive-pressure test methods, see Swinging-type Fire Doors, Positive-pressure Tested.

The basic standards used to investigate products in this category are NFPA 252, "Standard Methods of Fire Tests of Door Assemblies", ANSI/UL 10B, "Fire Tests of Door Assemblies," and UL 10A, "Tin-Clad Fire Doors."

The Certification Mark of National Accreditation and Management Inc. on the product is the only method provided by NAMI to identify products manufactured under its certification and listing program. The certification mark for these products includes the NAMI symbol, the word "Certified" under the NAMI symbol, and the following additional information:

RATING: ++
SWINGING TYPE FIRE DOOR NO. _____
MINIMUM LATCH THROW: + IN.
TEMP RISE: +++
No.

+ 1/2, 5/8 or 3/4

++ 4 HR, 3 HR, 1-1/2 HR, 1 HR, 3/4 HR, 30 MIN or 20 MIN

+++ 30 MIN - 250 F MAX, 30 MIN - 450 F MAX, 30 MIN - 650 F MAX, or no reference to temperature rise when the temperature rise exceeds 650°F at 30 min

In addition, some manufacturers can furnish doors bearing the notation "FIRE DOOR TO BE EQUIPPED WITH FIRE EXIT HARDWARE" in lieu of the notation "MINIMUM LATCH THROW: + IN.," as indicated in the individual certifications.

The Certification Mark is applied on the hinge edge of the door or on the head (top edge) of the door when the door is intended for use with a continuous hinge.

The Certification Mark for Twenty-minute-type Doors Fire Tested without Hose Stream includes the NAMI symbol, the word "Certified" under the NAMI symbol, and the following additional information:

TWENTY MINUTE TYPE DOOR FIRE TESTED WITHOUT HOSE STREAM
MINIMUM LATCH THROW: + IN.

+ 1/2, 5/8 or 3/4

In addition, some manufacturers can furnish doors bearing the notation "DOOR TO BE EQUIPPED WITH FIRE EXIT HARDWARE" in lieu of the notation "MINIMUM LATCH THROW: + IN.," as indicated in the individual certifications.

The certification mark is applied on the hinge edge of the door or on the head (top edge) of the door when the door is intended for use with a continuous hinge.

Positive-pressure Swinging-type Fire Doors

This category covers positive-pressure-tested swinging-type fire doors consisting of the following constructions: composite, hollow-metal, sheet-metal, and wood core.

Positive-pressure fire doors are categorized as follows:

Category A Doors — A fire door that does not require the addition of other components, such as edge seals, to comply with positive-pressure requirements. It also includes doors that have been prepared with edge seals in the manufacturing process.

Category B Doors — A fire door that requires the addition of an edge seals to comply with the positive-pressure requirements. See Category G Edge Sealing Systems under Gasketing and Edge-sealing Materials for Fire Doors, Positive-pressure Tested,

The individual classifications denote the category types.

Swinging-type fire doors are intended for installation in concrete, masonry and non-masonry walls.

Doors swinging in pairs in the same direction and double-egress doors swinging in opposite directions bearing the 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Assemblies Fire Tested Without Hose Stream certification mark can be provided with or without an astragal by some manufacturers as indicated in the individual certifications.

Glazing materials referenced in this category are certified as to fire resistance only. The glazing materials are intended to be installed in fire doors in accordance with ANSI/NFPA 80, "Fire Doors and Fire Windows," and the installation instructions provided by the manufacturer of the door, glazing frame members or glazing materials. See Fire Door Glass Light Frames and Fire-protection-rated Glazing Materials. Doors bearing 4 hour certification marks are not intended to be provided with vision panels.

Doors bearing the 3, 1-1/2 or 1 hour certification marks can be provided with certified glazing materials for the vision panel. The sum of the exposed glazing area should not exceed 100 sq in. per door and the width and height should not exceed 12 and 33 in., respectively. Doors rated 3 hour and provided with a vision panel are intended for the protection of openings as specified in the applicable sections of specific building codes.

Doors bearing 3/4 hour, 30 or 20 min certification marks can be provided with one or more certified glazing materials for the lights. The exposed area of each light should not exceed 1296 sq in. with no dimension exceeding 54 in. (except as indicated in the individual certifications).

Doors having the Twenty-minute-type Door Assemblies Fire Tested without Hose Stream certification marks can be provided with one or more certified glazing materials for the lights. The exposed area of each light should not exceed 1296 sq in. with no dimension exceeding 54 in. (except as indicated in the individual certifications).

Certified 1/4 in.-thick wired glass, as well as other types of certified glazing material, are covered under Fire-protection-rated Glazing Materials. The glazing material should be installed in accordance with the manufacturer's instructions to provide the protection indicated.

A door prepared at the factory for a light includes the glazing frame members, but generally does not include the glazing material. The glazing material (glass) is usually provided by other than the door manufacturer and is installed in the field at the time of the door installation.

Doors bearing the 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Assemblies Fire Tested without Hose Stream certification mark can be provided with a listed Fire Door Louver by some manufacturers as indicated in the individual certifications.

Authorities Having Jurisdiction should be consulted before installation.

Single-swing composite, hollow-metal and wood-core Dutch-type doors bearing the 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Assemblies Fire Tested Without Hose Stream certification mark can be provided by some manufacturers as indicated in the individual Classifications.

A horizontal astragal should be provided between the top and bottom door leaves.

Hollow-metal single-swing and pairs of doors swinging in the same direction bearing the 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 20 min or Twenty-minute-type Door Assemblies Fire Tested Without Hose Stream certification mark can be provided with stainless-steel door faces by some manufacturers as indicated in the individual certifications.

Doors bearing the 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Assemblies Fire Tested without Hose Stream certification mark can be provided with stainless-steel cladding or other types of cladding material by some manufacturers as indicated in the individual certifications.

Single-swing doors bearing the minimum latch-throw marking and the 4 hour, 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Assemblies Fire Tested Without Hose Stream certification mark should be provided with listed single-point locks or latches with a minimum 1/2-in. throw (except as indicated in the individual manufacturer's certification mark) to provide the protection indicated.

Single-swing doors bearing the fire-exit hardware marking and the 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Assemblies Fire Tested without Hose Stream certification mark should be provided with listed mortise- or rim-type fire-exit hardware to provide the protection indicated.

Doors swinging in pairs (same direction) bearing the minimum latch-throw marking and the 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Assemblies Fire Tested Without Hose Stream certification mark should be provided with listed single-point locks or latches with a minimum 3/4-in. throw (except as indicated in the individual manufacturer's certification mark) and listed top and bottom flush bolts or surface bolts to provide the protection indicated.

Doors swinging in pairs (same direction) bearing the fire-exit hardware marking and the 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Assemblies Fire Tested Without Hose Stream certification mark should be provided with a listed mortise-type fire-exit hardware device and/or a listed vertical-rod-type fire-exit device to provide the protection indicated. For doors rated up to and including 1-1/2 hour, a listed vertical-rod-type fire-exit hardware device may be used on both doors, if the doors are so prepared by the door manufacturer.

Double-egress doors (doors swinging in pairs - opposite direction) bearing the 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 min, 20 min or Twenty-minute-type Door Assemblies Fire Tested Without Hose Stream certification mark should be provided with listed vertical-rod fire-exit hardware devices to provide the protection indicated.

Hollow-metal-type doors can be provided with listed two- or three-point locks or latches.

Doors should be provided with hinges, pivots or olive knuckles in accordance with the specifications in ANSI/NFPA 80. For other types of Listed hinges see Fire Door Hinges.

Doors should be installed in listed door frames to provide the protection indicated.

Doors should be provided with door closers in accordance with ANSI/NFPA 80.

The following tabulation of doors is provided as a reference guide. The maximum door sizes will vary for each individual certification.

Composite Type

Composite doors include steel-covered-, wood-covered- and plastic-covered-type fire doors. They consist of a manufactured core material with steel edges, untreated wood edges or chemically-impregnated edges and face sheets of steel, wood veneer or laminated plastic. Steel-covered composite doors are rated up to 3 hour. Wood-covered and plastic-covered composite doors are rated up to 1-1/2 hour.

Sizes:

Type of Door	Maximum Size of Opening	
	Width	Height
Swinging, single (steel-covered)	4 ft, 0 in.	10 ft, 0 in.
Swinging, single (plastic-covered)	4 ft, 0 in.	8 ft, 0 in.
Swinging, single (wood-covered)	4 ft, 0 in.	8 ft, 0 in.
Swinging in pairs (steel-covered)	8 ft, 0 in.	8 ft, 0 in.
Swinging in pairs (steel-covered)	8 ft, 0 in.	8 ft, 0 in.
Swinging in pairs (plastic-covered)	8 ft, 0 in.	8 ft, 0 in.
Swinging in pairs (wood-covered)	8 ft, 0 in.	8 ft, 0 in.

Hollow-metal Type

Hollow-metal doors consist of formed steel of the flush and paneled designs. Hollow-metal doors are rated up to 3 hour.

Sizes:

Type of Door	Maximum Size of Opening	
	Width	Height
Swinging, single	4 ft, 0 in.	10 ft, 0 in.
Swinging in pairs	8 ft, 0 in.	10 ft, 0 in.

Wood-core Type

Wood-core doors consist of a wood block or wood particleboard core material with untreated wood edges and face sheets of wood veneer, hardboard or plastic laminate. Wood-core doors are rated 20 or 30 min.

Sizes:

Type of Door	Maximum Size of Opening	
	Width	Height
Swinging, single - 20 min	4 ft, 0 in.	8 ft, 0 in.
Double-egress doors	8 ft, 0 in.	8 ft, 0 in.

Twenty-minute-type Door Assemblies Fire Tested Without Hose Stream exposure are intended for use as door assemblies designed for the protection of openings in walls and partitions as specified in the applicable sections of the Model Building Codes.

The 20-minute rating indicates the duration of fire exposure only. These 20-minute-type door assembly components have not been subjected to a hose stream exposure.

Sizes:

Type of Door	Maximum Size of Opening	
	Width	Height
Swinging, single - 20 min	4 ft, 0 in.	10 ft, 0 in.
Double-egress doors - 20 min	8 ft, 0 in.	10 ft, 0 in.
Swinging in pairs - 20 min	8 ft, 0 in.	10 ft, 0 in.

The basic standard used to investigate products in this category is ANSI/UL 10C, "Positive Pressure Fire Tests of Door Assemblies." Products that have also been certified in accordance with Uniform Building Code Standard UBC 7-2, "Fire Tests of Door Assemblies" (1997), are noted in the individual Classifications.

Fire doors bearing the Smoke and Draft Control Door "S" marking are also investigated in accordance with ANSI/UL 1784, "Air Leakage Tests of Door Assemblies," and determined to have an air leakage rate of the door assembly not exceeding 3.0 cfm per square foot of door opening at 0.10 inch of water for both ambient and 400°F temperature conditions. The doors are intended to be installed in a listed fire door frame.

In addition, the products, when so investigated and noted in the individual certifications, may bear the adjunct marking "UBC 7-2 (1997)" after "UL 10C" to indicate certification in accordance with Uniform Building Code Standard UBC 7-2 (1997). The adjunct marking may include reference to the standard's Part II "S" rating (air leakage rating) in addition to the standard's Part I fire resistance rating.

The Certification Mark of National Accreditation and Management Inc. on the product is the only method provided by NAMI to identify products manufactured under its certification and listing program. The certification mark for these products includes the NAMI symbol, the word "Certified" under the NAMI symbol, and the following additional information:

RATING: ++
SWINGING TYPE FIRE DOOR
UL 10C
MINIMUM LATCH THROW: + IN.
TEMP RISE: +++
No.

+ 1/2, 5/8 or 3/4

++ 4 H, 3 H, 1-1/2 H, 1 H, 3/4 H, 30 MIN or 20 MIN

+++ 30 MIN - 250°F MAX, 30 MIN - 450°F MAX, 30 MIN - 650°F MAX or 30 MIN > 650°F

In addition, some manufacturers can furnish doors bearing the notation "FIRE DOOR TO BE EQUIPPED WITH FIRE EXIT HARDWARE" in lieu of the notation "MINIMUM LATCH THROW: + IN.," as indicated in the individual certifications.

The certification mark for Twenty-minute-type Doors Fire Tested without Hose Stream includes the NAMI symbol, the word "CERTIFIED" below the NAMI symbol, and the following additional information:

**TWENTY MINUTE TYPE DOOR FIRE TESTED WITHOUT HOSE STREAM
UL 10C
MINIMUM LATCH THROW: + IN.
No.**

+ 1/2, 5/8 or 3/4

In addition, some manufacturers can furnish doors bearing the notation "DOOR TO BE EQUIPPED WITH FIRE EXIT HARDWARE" in lieu of the notation "MINIMUM LATCH THROW: + IN.," as indicated in the individual certifications.

For fire doors meeting the specified ANSI/UL 1784 requirements, both certification marks may also include the statement "SMOKE AND DRAFT CONTROL DOOR" or "S."

Sliding-type Fire Doors

Sliding type fire doors consist of the following constructions: Composite, Hollow-Metal, Metal-Clad, Sheet Metal and Tin-Clad.

Sliding type doors are intended for installation in concrete or masonry walls unless otherwise noted in the individual Classifications.

Center parting doors must be provided with an astragal in accordance with NFPA 80 to provide the protection indicated.

Tin-clad doors made of 14 by 20 in. metal sheets must be provided with vents as specified in NFPA 80 to provide the protection indicated.

Doors bearing 4 hour certification markings are not to be provided with vision panels.

Doors bearing the 3, 1-1/2 or 1 hour certification marking may be provided with certified glazing materials for the vision panels. The sum of the exposed glazing area shall not exceed 100 sq in. per door, and the width and height shall not exceed 12 and 33 in., respectively.

Doors bearing the 3/4 hour, 30 Min or 20 Min certification markings may be provided with one or more certified glazing materials for the lights. The exposed area of each light shall not exceed 1296 sq in. with no dimension exceeding 54 in.

Doors bearing the Twenty Minute Type Door Fire Tested without Hose Stream certification markings may be provided with one or more certified glazing materials for the lights. The exposed area of each light shall not exceed 1296 sq in. with no dimension exceeding 54 in. (except as indicated in the individual certifications).

Certified 1/4 in. thick wired glass as well as other types of certified glazing material is covered under Fire-protection-rated Glazing Materials. The glazing material is to be installed in accordance with the manufacturer's instructions to provide the protection indicated.

A door prepared at the factory for a light includes the glazing frame members, but generally does not include the glazing material. The glazing material (glass) is usually provided by other than the door manufacturer and is installed in the field at the time of the door installation.

Sliding doors may be provided with pass doors by some manufacturers as indicated by the individual Classifications.

The pass door, complete with all necessary hardware, is provided with the sliding door panel.

Sliding doors bearing the 3 hour, 1-1/2 hour, 1 hour, 3/4 hour, 30 Min, 20 Min or Twenty Minute Type Door Fire Tested without Hose Stream certification marking must be provided with listed fire door hardware to provide the protection indicated.

Sliding doors bearing the 4 hour certification marking must be provided with the applicable hardware which is shipped with the door assembly and installed per the manufacturer's installation instructions to provide the protection indicated.

Doors must be provided with door closing devices in accordance with NFPA 80.

The following tabulation of door sizes is provided as a reference. The maximum door sizes will vary for each individual certification.

Composite doors include steel covered type fire doors. They consist of a manufactured core material with steel edges, and face sheets of steel. Steel covered composite doors are rated up to 4 hours.

Type of Door	Area Sq Ft	Max Size of Opening	
		Width	Height
Horizontal sliding, single slide	120 sq ft	12 ft 0 in.	12 ft 0 in.
or center parting			

Hollow-metal doors consist of formed steel of the flush and paneled designs. Hollow metal doors are rated up to 4 hours.

Type of Door	Area Sq Ft	Max Size of Opening	
		Width	Height
Horizontal sliding, single slide	120 sq ft	12 ft 0 in.	12ft 0 in.
or center parting			

Metal clad (Kalamein) doors consist of the flush and paneled designs having metal covered wood members. Metal-clad doors are rated up to 1-1/2 hour.

Type of Door	Area Sq Ft	Max Size of Opening	
		Width	Height
3-ply, horizontal sliding, single slide	120 sq ft	12 ft 0 in.	12 ft 0 in.
or center parting			
2-ply, horizontal sliding, single	80 sq ft	8 ft 0 in.	10 ft 0 in.
Slide			

Sheet metal doors consist of formed steel of the corrugated, flush, and paneled designs. Sheet metal doors are rated up to 3 hour.

Type of Door	Area Sq Ft	Max Size of Opening	
		Width	Height
Horizontally sliding, single slide	120 sq ft	12 ft 0in.	12 ft 0 in.
or center parting			
Vertical sliding, single slide	80 sq ft	12 ft 0 in.	12 ft 0in.

TIN CLAD TYPE

Tin-clad doors consist of two- or three-ply wood core construction, covered with galvanized steel or terne plate. Tin clad doors are rated up to 3 hour.

Type of Door	Area Sq Ft	Max Size of Opening	
		Width	Height
3-ply, horizontal sliding, single slide	120 sq ft	12 ft 0 in.	12 ft 0 in.
or center parting			
3-ply, vertically sliding, single	80 sq ft	10 ft 0 in.	10 ft 0in.
Slide			
2-ply, horizontal sliding, single	80 sq ft	10 ft 0 in.	10 ft 0in.
Slide			

Twenty minute type door assemblies fire tested without hose stream exposure are intended for use as door assemblies designed for the protection of openings in walls and partitions as specified in the applicable sections of the Model Building Codes.

The 20 Minute rating indicates the duration of fire exposure only. These 20 Minute type door assembly components have not been subjected to a hose stream exposure.

Type of Door	Area Sq Ft	Max Size of Opening	
		Width	Height
Horizontal sliding, single slide	120 sq ft	12 ft 0 in.	12ft 0 in.
or center parting			

The Certification Mark of National Accreditation and Management Inc. on the product is the only method provided by NAMI to identify products manufactured under its certification and listing program. The certification mark for these products includes the NAMI symbol, the word "Certified" under the NAMI symbol, and the following additional information:

SLIDING TYPE FIRE DOOR No. _____

Rating: _____ + _____ Temp. Rise: _____ ++ _____

+4hour, 3hour, 1-1/2 hour, 1hour, 3/4 hour, 30 Min or 20 Min.

++30 Min — 250 F Max, 30 Min — 450 F Max, 30 Min — 650 F Max or no reference to temperature rise when the temperature rise exceeds 650 F at 30 min.

Twenty minute type doors fire tested without hose stream bear the Certification Marking as shown below. The certification mark for these products includes the NAMI symbol, the word "Certified" under the NAMI symbol, and the following additional information:

TWENTY MINUTE TYPE DOOR FIRE TESTED WITHOUT HOSE STREAM

Fire Doors and Window Frames

This category covers fire door frames, fire window frames, and 20-minute-type door frames or window frames fire tested without hose stream.

Fire door and fire window frames are intended for the protection of openings in walls when installed in accordance with ANSI/NFPA 80, "Fire Doors and Other Opening Protectives," and ANSI/SDI A250.11, "Recommended Erection Instructions for Steel Frames." Installation instructions are not required to be shipped with frames that are to be installed in accordance with ANSI/NFPA 80 and ANSI/SDI A250.11. Installation details other than those specified in ANSI/NFPA 80 and ANSI/SDI A250.11 are shipped with the frames. Elevator door frames, wood frames and other special use frames as identified in the individual Listings are intended for installation only in walls of the types shown in the installation instructions accompanying the door or window frame.

20-minute-type door frames fire tested without hose stream are intended for use with 20-minute-type door assemblies fire tested without hose stream. 20-minute-type door and window assemblies fire tested without hose stream are intended for the protection of openings in walls and partitions as specified in the applicable sections of one or more model building codes. The 20-minute rating indicates the duration of fire exposure only. These 20-minute door and window frame assembly types have not been subjected to a hose stream exposure.

Glazing materials referenced in this category are certified as to fire resistance only. The glazing materials are intended to be installed in the fire doors in accordance with ANSI/NFPA 80 and the installation instructions provided by the manufacturer of the door, glass light frame or glazing material; see Fire-protection-rated Glazing Materials.

Door frames bearing a NAMI mark without an hourly rating are intended (when provided with the required wall anchors) for installation in designated fire rated walls.

Door frames bearing a NAMI mark without an hourly rating and provided with masonry wall anchors can be used in conjunction with fire doors rated up to 3 hour and installed in masonry walls having fire resistance ratings not less than the rating of the door.

Door frames bearing a NAMI mark without an hourly rating and provided with steel stud or wood stud anchors can be used in conjunction with fire doors rated up to 1-1/2 hour and installed in steel stud and wood stud walls steel stud cavity walls, steel stud shaft walls and wood stud cavity walls protected with gypsum wallboard, having fire resistance ratings not less than the rating of the door nor more than 2 hour.

Elevator door frames, frames of the slip-on type, wood frames and other special use frames as identified in the individual Listings are for installation only in the walls of the types shown in the installation instructions accompanying the door frame.

Door frames bearing a NAMI mark with a specific rating which is used with labeled fire doors or hardware having a lesser or greater rating will provide the degree of fire protection afforded by the lesser rating of frame, door or hardware.

Standard door frames are of the single-unit or two-section type and consist essentially of steel head and jamb members, including hardware reinforcements, wall anchors, door stops, and provisions for anchoring to the floor.

Door frames may be provided with mullions, transom panels, or transom lights. In addition to the steel head and jamb members, these frames should be equipped with a steel mullion, transom bar, steel-covered composite transom panel, and glazing beads. Transom panel frames of standard construction are for use with doors rated up to and including 1-1/2 hour. Transom light frames glazed with labeled glazing material are intended for use with doors rated a max of 3/4 hour.

Some manufacturers can provide labeled transom panel frames for use with doors rated up to and including 3 hours as indicated in the individual Listings. Some manufacturers can provide labeled transom frames with hollow-metal transom panels with or without a transom bar. Transoms of solid construction are for use with doors rated up to and including 1-1/2 hour (unless otherwise noted for 3 hours in the individual Listings). Some manufacturers can provide labeled door frames with side panels or sidelights. Frames with side panels are for use with doors rated up to and including 1-1/2 hour. Frames with sidelights glazed with labeled glazing material are intended for use with doors rated a max of 3/4 hour.

Special frames are constructed of materials other than steel and are intended for use with doors rated less than 3 hours. The hourly ratings for special frames are shown in the individual listings.

Some special frames are intended for use with certified fire doors and listed transom panels of a specific design. These frames and the labeled components are identified in the individual listings.

Double egress frames are intended for use with double egress door designs as identified in the individual listings.

Elevator door frames are intended for use with sliding freight or passenger elevator fire door designs for use in dry wall or masonry shaft construction, as identified in the individual listings for door frames.

Freight elevator, passenger elevator and swing type fire door frames incorporating transom panels exceeding the heights eligible for listing and which have not been subjected to standard fire tests can be provided with a certificate for oversized frame assemblies that are otherwise found to be in compliance

(except for size) with all requirements for design, materials and construction. These oversized frame assemblies are intended for use with specific certified freight elevator fire doors, passenger elevator fire doors, or swing fire doors. Prospective users should ascertain from the Authority Having Jurisdiction whether the assembly is acceptable for a specific location. The oversize certificate can be a separate certificate or a label certificate affixed to the assembly.

20-minute-type door frames may be provided with sidelights and/or transom lights as indicated in the individual listings.

Standard 20-minute-type door frames are of the single-unit pressed steel type and consist essentially of steel head and jamb members, including hardware reinforcements, wall anchors, door stops and provisions for anchoring to the floor.

A 20-minute-type door frame with a transom and/or sidelight prepared at the factory for the glazing material does not normally include the glazing material itself. These frames should be glazed with Certified glazing material; see Fire-protection-rated Glazing Materials.

All three-sided hollow-metal frames, manufactured from No. 18 gauge or heavier steel and properly anchored, will comply with the positive pressure test requirements. NAMI does not require that these frames be marked for compliance with positive pressure. Every steel frame manufacturer listed herein is eligible to produce hollow-metal frames for compliance to positive pressure. Some manufacturers have opted to mark their frames for conformity to positive pressure as noted below.

Three-sided steel frames comply with the positive pressure test requirements of ANSI/UL 10C and UBC 7-2 (1997). The frame label reads as follows (several options available): "Listed Fire Door Frame" or "Listed Fire Door Frame" and "UL 10C, UBC 7-2 (1997)." A supplemental label may be used to denote conformity to ANSI/UL 10C and UBC 7-2 (1997).

Category C frames should be marked for conformity to positive pressure. The required label reads as follows: "Listed Fire Door Frame" and "UL 10C, UBC 7-2 (1997)." Limitations on the hourly rating (if appropriate) also appear on the label.

Frames with lights (transom or sidelight) comply with positive pressure when certain glass (glazing) and glazing compounds are used. The label for the frame reads as follows (several options available): "Listed Frame with Lights" or "Listed Frame with Lights" and "UL 10C, UBC 7-2 (1997)." A supplemental label may be used to denote conformity to ANSI/UL 10C and UBC 7-2 (1997).

Fire window frames consist of sash and mullions of various designs. Fire window frames are listed for a 3/4 hour or 1 hour fire rating. In addition, some window frames are listed for Twenty Minutes without Hose Stream as indicated in the individual listings. The exposed area of individual glazing lights is limited to 1296 sq in. with no dimension to exceed 54 in. unless otherwise stated in the individual listings.

Fire window frames are intended to be installed in masonry-type walls unless otherwise identified in the individual listings.

Fire window frames intended to be installed in drywall construction and supported directly by a noncombustible floor bear the supplemental marking "Fire Window Frame for Installation on Noncombustible Floor with Base Anchor Provided on Frame."

Fire window frames intended to be installed above the floor in drywall construction should be installed as specified by the installation instructions provided with the window frame.

20-minute-type window frames fire tested without hose stream cover pressed steel window frames of the hollow-metal type.

Standard 20-minute-type window frames consist of formed steel sheet, reinforced as required, with a stationary type single sash or with stationary type multiple sashes.

The window frame prepared at the factory for the glazing material does not normally include the glazing material. Certified glazing material is usually provided by other than the window frame manufacturer and installed after installation of the window frame in the building.

The protection of an opening depends not only upon the use of doors or glazing of the proper type, but also upon the use of listed door or window frames, listed hardware, and other certified or listed accessories, as needed. Authorities Having Jurisdiction should be consulted as to which door type, door frame, window frame, glazing, hardware and other certified or listed accessories are acceptable for any given location.

Window frames may comply with positive pressure when certain glass (glazing) and glazing compounds are used. The label for the frame reads as follows (several options available): "Fire Window Frame" or "Fire Window Frame" and "UBC 7-4 (1997)." A supplemental label may be used to denote conformity to UBC 7-4 (1997).

Fire window frames exceeding the height and width eligible for listing and which have not been subjected to standard fire tests can be provided with a certificate for oversized frame assemblies that are otherwise found to be in compliance (except for size) with all requirements for design, materials and construction. Authorities Having Jurisdiction should be consulted as to whether the assembly is acceptable for a specific location. The oversize certificate can be a separate certificate or a label certificate affixed to the assembly.

The basic standards used to investigate door frames are NFPA 252, "Standard Methods of Fire Tests of Door Assemblies", ANSI/UL 10B, "Fire Tests of Door Assemblies" and ANSI/UL 10C, "Positive Pressure Fire Tests of Door Assemblies," or the requirements contained in UL Subject 63, "Outline of Investigation for Fire Door Frames."

The basic standard used to investigate window frames is NFPA 257, "Standard on Fire Test for Window and Glass Block Assemblies" and ANSI/UL 9, "Fire Tests of Window Assemblies." Products that have also been certified in accordance with Uniform Building Code Standard UBC 7-4, "Fire Tests of Window Assemblies" (1997), are noted in the individual listings. Products identified as 20-minute-type door or window frames are investigated using NFPA 252, ANSI/UL 10B or ANSI/UL 10C without the hose stream exposure described in the test method.

The Listing Mark of National Accreditation and Management Institute Inc. on the product is the only method provided by NAMI to identify products manufactured under its Certification and Listing Program. The Listing Mark for these products includes the NAMI symbol together with the word "LISTED," and one of the following product names as appropriate:

- "Fire Door Frame"
- "Fire Door Frame for Lights"
- "Fire Door Frame for Transom Light"
- "Fire Door Frame with Panels"
- "Fire Door Frame with Transom Panel"
- "Fire Door Frame for Sidelight"
- "Fire Door Frame with Side Panel"
- "Fire Door Frame for Side and Transom Lights"
- "Fire Door Frame with Side and Transom Panels"
- "Transom or Sidelight Panel"

- "Fire Door Frame, Fire Rating: 20 Minutes"
- "Twenty Minute Type Door Frame Fire Tested Without Hose Stream," with or without the notation "Frame for Lights" or "Frame with Panels"
- "Twenty Minute Type Window Frame Fire Tested Without Hose Stream"
- "Fire Window Frame (3/4 Hr or 1 Hr) Fire Rating"
- "Sheet-Metal Mullion for Nonbearing Fire Window Frames"

When the Listing Mark of National Accreditation and Management Inc. is stamped into the frame, one of the following abbreviated product identities may be used:

- "FDF" in lieu of "Fire Door Frame"
- "FDF-L" in lieu of "Fire Door Frame for Lights"
- "FDF-P" in lieu of "Fire Door Frame with Panels"
- "FDF-20" in lieu of "Fire Door Frame Fire Rating 20 Minutes"
- "FDF-20 NH" in lieu of "20 Minute Type Door Frame Fire Tested Without Hose Stream"

All knocked-down fire door frame parts bear the supplementary statement "Knocked-Down Frame Part for Listed Fire Door Frame." Also, the jamb bears the supplementary statement "Listed Fire Door Frame." The supplementary statement on each part identifies the listed frame parts.

All knocked-down twenty-minute-type door or window frame parts bear the supplementary statement "Knocked-Down Frame Part for Listed Twenty Minute Door or Window Frame" in addition to the supplementary statement "Twenty Minute Type Door Frame or Window Frame Fire Tested without Hose Stream."

Special Purpose Fire Doors

This category covers special-purpose fire door and frame assemblies. They consist of doors, frames, latches, hinges and closers of special construction or for special use as indicated in the individual Classifications. Special-purpose door assemblies are intended to be installed in concrete, masonry or non-masonry walls in accordance with the installation instructions provided with each assembly to provide the protection indicated. Special-purpose door assemblies are intended to be installed in accordance with ANSI/NFPA 80, "Standard for Fire Doors and Other Opening Protectives."

Authorities Having Jurisdiction should be consulted before installation.

Two types of Certification marks are available for special-purpose fire door assemblies based upon the size of the door. The maximum size of a special-purpose fire door that has been subjected to a fire test is intended for an opening not exceeding 152 sq ft in area, with no dimension exceeding 13 ft 6 in. Special-purpose fire doors intended for openings not exceeding 152 sq ft in area and with no dimension exceeding 13 ft 6 in. bear the "Special Purpose Fire Door and Frame Assembly" or individual "Special Purpose Fire Door Assembly" and "Special Purpose Frame Assembly" Certification mark.

The basic standard used to investigate products in this category is NFPA 252, "Standard Methods of Fire Tests of Door Assemblies" and ANSI/UL 10B, "Fire Tests of Door Assemblies."

The certification mark of National Accreditation and Management Inc. on the product is the only method provided by NAMI to identify products manufactured under its certification and listing program. The certification mark for these products includes the NAMI symbol, the word "Certified" under the NAMI symbol, and the following additional information:

**[PRODUCT NAME*]
FIRE RESISTANCE CLASSIFICATION**

**** RATING**

*** SPECIAL PURPOSE FIRE DOOR AND FRAME ASSEMBLY, SPECIAL PURPOSE FIRE DOOR ASSEMBLY or SPECIAL PURPOSE FRAME ASSEMBLY**

** The rating includes an hourly duration, such as "1hour," and may include a temperature rise performance, such as "Temperature rise - 250°F at 30 minutes."

The certification mark for oversized special-purpose fire doors includes the NAMI symbol, the word "CERTIFIED" under the NAMI symbol, and the following additional information:

**[PRODUCT NAME*]
FIRE RESISTANCE CLASSIFICATION
** RATING**

*** SPECIAL PURPOSE OVERSIZED FIRE DOOR AND FRAME ASSEMBLY, SPECIAL PURPOSE OVERSIZED FIRE DOOR ASSEMBLY or SPECIAL PURPOSE OVERSIZED FRAME ASSEMBLY**

** The rating includes an hourly duration, such as "1 hour."

Fire Door Glass Light Frames

Glass light frames consist essentially of steel or wood framing members and their mounting fasteners. The maximum size of the glass light frames should not exceed:

Framing Member Mtl	Max Width (mm) In.	Max Height (mm) In.	Max Area m (2) (Sq In.)	Max Door Rating
Wood+	30	40	1200	20 min
Steel	54	54	1296	3/4 h
Steel	10	33	100	1-1/2 h

+ - Glass light frames consisting of wood framing members and their mounting fasteners are only intended for use in 20 min wood core doors.

The glass light frame is intended to be installed in accordance with the installation instructions packaged with the device. The use of steel sex-bolts or steel sheet metal screws to install the glass light frame in the door is required depending on the type of door and the design of light frame. The fasteners are furnished as part of the light frame.

The glass light frame may be installed in the certified swinging fire doors by some manufacturers at the door manufacturer's plant or in the field. When the light frame is intended to be installed in the field, the cutout in the door is made at the door manufacturer's plant and the door bears a marking indicating the manufacturer and model designation of listed glass light frame to be installed in the door.

The glass light frame may be installed in the certified swinging fire doors by some manufacturers at the door manufacturer's plant or in the field. When the light frame is intended to be installed in the field, the

cutout in the door is made at the door manufacturer's plant and the door bears a marking indicating the manufacturer and model designation of listed glass light frame to be installed in the door.

Authorities Having Jurisdiction should be consulted before installation of glass light frames in fire doors.

The basic standard used to investigate products in this category is NFPA 252, "Standard Methods of Fire Tests of Door Assemblies" and UL 10B, "Fire Tests of Door Assemblies." Products that have also been evaluated to UL 10C, "Positive Pressure Fire Tests of Door Assemblies," are noted in the individual listings. Additionally, those products that have been certified in accordance with Uniform Building Code Standard UBC 7-2, "Fire Test of Door Assemblies" (1997), are noted in the individual listings. Products that have been evaluated to positive pressure test requirements are noted as Category F Light Kits in the individual listings.

The listing Mark of National Accreditation and Management Institute Inc. on the product is the only method provided by NAMI to identify products manufactured under its certification and listing program. The listing mark for these products includes the NAMI symbol, together with the word "LISTED," a control number, and the product name "Fire Door Glass Light Frame" or "Fire Door Glass Light Frame For Use Only On 20 Min Wood Core Doors."

Products that have also been evaluated to UL 10C may have that fact so noted on the NAMI listing mark. Additionally, those products noted in the individual Listings that have been certified in accordance with Uniform Building Code Standard UBC 7-2, "Fire Test of Door Assemblies" (1997), may bear the additional reference "UBC 7-2 (1997)" after the UL 10C.

Fire-Protection-Rated Glazing Materials

This category covers fire-protection-rated glazing materials Certified for 3/4 hour, 1 hour, 1-1/2 hour, and 3 hour fire ratings, or 1/3 hour fire rating without hose stream as indicated in the individual certifications.

Fire-protection-rated glazing materials are intended for installation in fire windows, fire doors, and fire door frames with transoms and/or sidelights that are provided with suitable glazing frame members.

Fire-protection-rated glazing materials are intended to be installed in accordance with ANSI/NFPA 80, "Fire Doors and Fire Windows," and/or model building codes, in addition to the installation instructions provided by the manufacturer. ANSI/NFPA 80 and/or the building codes limit the use of fire-protection-rated glazing materials to (1) sidelights and transoms in fire door assemblies having a rating no greater than 3/4 hour, (2) to fire windows in the interior of a structure having a rating no greater than 3/4 hour, (3) to fire windows in an exterior wall of a structure having a rating no greater than 3 hour, and (4) to swinging-type fire doors. Fire-protection-rated glazing materials having a rating equal to or greater than the requirements may be utilized in these installations. The installation of glazing materials is intended to be in accordance with the local building code as determined by the Authority Having Jurisdiction.

Authorities Having Jurisdiction should be consulted before installation.

Fire-protection-rated glazing materials are not generally provided by the fire door, fire door frame or fire window frame manufacturer. These glazing materials are normally installed on the job site after the fire door, fire door frame, or fire window frame is installed in the building.

Nominal 1/4 in.-thick wired glass may be used where permitted by the local building code. The maximum exposed area for an individual light should not exceed 1296 sq in. with no dimension of exposed wired glass greater than 54 in., unless otherwise indicated in the individual Classifications. The groove depth formed by the framing members used for retaining wired glass should have a minimum depth as shown in the following tabulation.

Max Area of Exposed Glazing Material (sq in.)	Min Depth of Groove (in.)
100	1/2
500	5/8
600	11/16
1296	3/4

Wired glass, 1/4-in. thick, is rated for 3/4 hour for an exposed area not exceeding 1296 sq in., and rated for 1-1/2 hour for an area not exceeding 100 sq in. For fire-protection-rated glazing materials other than 1/4-in.-thick wired glass, the maximum exposed area for an individual light, the minimum groove depth, and the rating should be as indicated in the individual Classifications.

The 20-minute fire-protection-rated glazing materials tested without hose stream exposure are intended for use in fire windows and fire door assemblies for the protection of openings in walls and partitions as specified in the applicable sections of the model building codes.

The 20-minute rating indicates the duration of fire exposure only. These 20-minute glazing materials have not been subjected to a hose stream exposure.

Glazing materials bear a marking as described in ANSI/NFPA 5000, "Building Construction and Safety Code," and the "International Building Code."

The marking for glazing materials intended for use in fire doors includes the following information:

The NAMI symbol with the word "CERTIFIED" below the NAMI symbol

Manufacturer name or identification

NFPA 252, ANSI/UL 10B and/or ANSI/UL 10C

D - H or NH - T or NT - xxx

Where:

"D" indicates the glazing is suitable for use in fire door assemblies

"H" indicates compliance with the hose stream requirements of the standard

"NH" indicates the glazing has not been subjected to the hose stream requirements of the standard

"T" indicates the glazing material has a temperature rating, which is defined as a maximum unexposed surface temperature of 450°F when measured at 30 minutes during the standard fire test

"NT" indicates the glazing material does not have a temperature rating, which is defined as a maximum unexposed surface temperature in excess of 450°F when measured at 30 minutes during the standard fire test

"xxx" indicates the fire-protection rating period in minutes

The marking for glazing materials intended for use in fire windows includes the following information:

The NAMI symbol with the word "CERTIFIED" below the NAMI symbol

Manufacturer name or identification

NFPA 257 and/or ANSI/UL 9

OH - xxx

Where "OH" indicates compliance with the fire and hose stream requirements of the standard and "xxx" indicates the fire-protection rating period in minutes

Unless otherwise indicated in the individual certifications, these glazing materials have not been investigated as safety glazing. In the United States, model codes require that glazing materials used in locations subject to human impact in hazardous (certified) locations comply with the requirements for safety glazing as defined in 16CFR1201, "Safety Standard for Architectural Glazing Materials."

The basic standards used to investigate products in this category are NFPA 257, "Standard on Fire Test for Window and Glass Block Assemblies". ANSI/UL 9, "Fire Tests of Window Assemblies," ANSI/UL 10B, "Fire Tests of Door Assemblies," and/or ANSI/UL 10C, "Positive Pressure Fire Tests of Door Assemblies."

The fire exposure condition defined in the NFPA 257 and/or ANSI/UL 9 permits the neutral pressure plane within the furnace to be located at one of two locations. The neutral pressure plane is permitted to be located such that two-thirds of the test sample is exposed to a positive furnace pressure condition. This exposure condition is defined as a positive pressure condition. The neutral pressure plane is also permitted to be located within one inch of the top of the window assembly. This exposure condition is defined as a neutral pressure condition. Using these definitions for furnace pressure condition, NFPA 252 and ANSI/UL 10B represents a neutral pressure condition and ANSI/UL 10C represents a positive condition.

Fire-protection-rated glazing materials investigated to NFPA 257 and/or ANSI/UL 9 are intended for use in fire windows and may be used in fire door assemblies tested under neutral pressure conditions.

The certification mark of National Accreditation and Management Institute Inc. on the product is the only method provided by NAMI to identify products manufactured under its certification and listing program. The certification mark for these products includes the NAMI symbol, the word "CERTIFIED" below the NAMI symbol, and the following additional information:

**FIRE-PROTECTION-RATED GLAZING MATERIAL
FIRE TESTED UNDER * PRESSURE CONDITION
IN ACCORDANCE WITH #
Control No.**

The certification mark for glazing materials tested without a hose stream includes the NAMI symbol, the word "CERTIFIED" below the NAMI symbol, and the following additional information:

**FIRE-PROTECTION-RATED GLAZING MATERIAL
FIRE TESTED UNDER * PRESSURE CONDITION
TWENTY-MINUTE RATING
TESTED WITHOUT HOSE STREAM
Control No.**

* NEUTRAL or POSITIVE

NFPA 252, NFPA 257, ANSI/UL 9, ANSI/UL 10B and/or ANSI/UL 10C

Gasketing and Edge-sealing Materials for Fire Doors, Positive-pressure Tested

This category covers positive pressure tested gasketing materials for fire doors intended for installation on certified fire doors and/or listed fire door frames or in their thresholds, as specified in the individual certifications. The gasketing material is intended to be installed in accordance with the installation instructions packaged with the material.

Gaskets and edge seals are categorized as follows:

Category G Edge Sealing Systems - Edge seals are gasket materials that have demonstrated their ability to assist the door in meeting the positive pressure fire test requirements. They expand and fill the gaps around the door edges to prevent the passage of hot smoke and gases. These materials are required for Category B Swinging Type Fire Doors, Positive Pressure Tested. Edge seals are surface applied to frames or doors. These seals may or may not affect the leakage (smoke) requirements for the smoke ("S") rating. Edge Sealing Systems are either certified for general use on all products in a door type family or limited to individual door manufacturers as noted in the individual certifications. Edge seals that are also smoke seals are denoted as Category G/Category H Edge Seal/Smoke and Draft Control Gasketing in the individual certifications.

Category H Smoke and Draft Control Gasketing - Gasketing materials that are surface applied to a door and frame assembly to comply with the requirements of UBC 7-2 Part II (1997). Smoke and draft control gasketing is either certified for general use on all products in a door type family or limited to individual door manufacturers as noted in the individual Classifications.

Category J Gaskets- Gasket materials that are added to a door assembly for purposes other than Category G Edge Seals and Category H Smoke and Draft Control Gaskets. They are used for purposes such as weather stripping, sound control, etc. Category J Gasketing Materials have only been investigated to positive pressure with respect that they do not contribute to flaming during the fire test. They have not been evaluated for any contribution for a door assembly to help meet the positive pressure requirements.

Gasketing materials consist of a metal frame or a flexible material, either mechanically secured within a metal frame or housing or applied by means of a pressure sensitive adhesive to the perimeter of the certified fire door and/or listed door frame or installed within their thresholds, as specified in the individual certifications.

The gasketing material can be installed on the certified fire doors at the fire door and/or frame manufacturer's plant or at the job site. Category G materials are materials that assist with doors meeting the positive pressure test requirements. Category H Gasketing Materials for fire doors have been investigated only with respect to determination that the materials do not adversely affect the fire rating of fire doors in which they are installed and they contribute to the door assembly meeting the requirements of UBC 7-2 Part II. Category J Gasketing Materials have only been investigated with respect to determination that the materials do not adversely affect the fire rating of fire doors in which they are installed. Gasketing material identified for use at the meeting edges of pairs of doors is not intended to replace the astragal (if required by the door manufacturer) nor to alter the clearance between doors, as specified in NFPA 80, "National Fire Protection Association Standard for Fire Doors and Windows," or in the door manufacturer's installation instructions.

The basic standard used to investigate products in this category is UL 10C, "Positive Pressure Fire Tests of Door Assemblies." Products that have also been certified in accordance with Uniform Building Code Standard UBC 7-2, "Fire Tests of Door Assemblies" (1997), are noted in the individual Listings.

The Certification mark of National Accreditation and Management Institute Inc. on the product is the only method provided by NAMI to identify products manufactured under its certification and listing program. The certification mark for these products includes the NAMI symbol, the word "CERTIFIED" below the NAMI symbol, the product identity "Positive Pressure Tested Gasketing Materials for Fire Doors," "Intended for Application to ___ Type Fire Doors," "Rated up to ___ hrs" and a control number.

In addition, the products, when so evaluated and noted in the individual listings, may bear the adjunct marking, "ALSO CERTIFIED IN ACCORDANCE WITH Uniform Building Code Standard 7-2, Fire Tests of Door Assemblies (1997)."

Fire Door Hardware

Fire door hardware is intended for use with composite (steel-covered only) hollow-metal, sheet-metal, and tin-clad fire doors. These doors are usually prepared for a specific set of hardware on the job site.

To provide the degree of fire protection to a wall opening as indicated by the fire door label, this hardware must be applied and the resulting door hardware assembly installed in accordance with the recommendations contained in the National Fire Protection Association Standard for Fire Doors and Windows, NFPA 80.

This hardware is of two types, namely, hardware intended for use with sliding doors and hardware intended for use with swinging doors.

Hardware for horizontally sliding composite (steel-covered) and hollow-metal doors, and horizontally and vertically sliding sheet-metal doors, is essentially the same as for tin-clad doors, with minor differences to conform to the constructions of various manufacturers.

Hardware for horizontally sliding tin-clad, sheet-metal, and hollow-metal doors, mounted singly or center parting, and single sliding composite (steel-covered) doors is designed for openings not exceeding 120 sq ft with no dimension exceeding 12 ft.

Each complete set of listed hardware for horizontally single slide tin-clad doors contains: (1) one track, length equal to twice the width of the opening plus 21 in., punched for wall bolts. (2) Two hangers for openings 6 ft and less in width; three hangers for openings wider than 6 ft; and bolts for attaching hanger to door. (3) Two front binders for openings 8 ft and less in height; three front binders for openings higher than 8 ft; one rear binder and binder pocket for openings 10 ft and less in height; two rear binders and binder pockets for openings higher than 10 ft. (4) One stay roll with attachment bolts suitable for the form of sill used. (5) One bracket for each track bolt. (6) Two half oval chafing strips for back of door; two flat strips for front of door opposite half oval strips; bolts for fastening above strips together through door; length of strips to be 4 in. less than width of door. Doors exceeding 8 ft in height require three chafing strip assemblies. (7) One strip 5 in. less than width of door to take wear of stay roll; and wood screws for attachment. (8) One wedge with screws for attachment. (9) Handles with bolts and screws for attachment. (10) One front bumper and one back bumper. (11) Four bumper shoes and screws for attachment; each bumper shoe may be made in two pieces. (12) Washers for all wall bolts. (13) Instructions for installation.

Hardware for vertically sliding tin-clad and sheet-metal doors is designed for openings not exceeding 80 sq ft in area, with no dimension exceeding 12 ft.

Each complete set of listed hardware for vertically sliding tin-clad and sheet-metal door contains: (1) Two 3-1/2 by 3/8 in. tracks, length equal to twice the height of the opening plus 9 in. punched for wall bolts. (2) One cast iron bracket for each track bolt. (3) Two malleable iron track guides for each track for openings 5 ft or less in height and an additional guide for each track for each 2-1/2 ft or fraction thereof in excess of 5 ft. (4) One bumper bolted to top of each track with wall bolt. (5) Four bumper shoes and screws for attachment. (6) Two wrought-iron or steel cables, not less than 5/16-in. diameter. (7) Two cable brackets. (8) Four cable fasteners and thimbles. (9) Two cable pulleys, with malleable iron frames and sheaves. (10) Counterweights. (11) Two 3/4 by 1/4 in. half oval chafing strips for back of door; length 2 in. less than height of door; strips held by 1/4 in. bolts or machine screws with countersunk heads, passing through door and bearing against washers. (12) Handles with bolts and screws for attachment. (13) Necessary washers, rivets, bolts, and screws to properly fasten the hardware to the door and wall. (14) Instructions for installation.

Listing marks are applied to each hanger, binder, bumper, flush pull, stay roll, and to each section of track in a set of listed single slide hardware, and for center parting doors, listing marks are applied to each track section, center floor binder, center track binder, and center latch assembly.

Swinging hardware is designed for single swing sheet-metal and three-ply tin-clad doors not exceeding 6 ft in width and 12 ft in height and doors swinging in pairs not exceeding 10 ft in width and 12 ft in height and two-ply tin-clad doors swinging single not exceeding 6 ft in width and 10 ft in height and doors swinging in pairs not exceeding 10 ft in width and 10 ft in height.

Each complete set of listed hardware for single-swing door includes wall strips (except for openings supplied with standard steel frames), hinge brackets, hinges, catches, latches, latch keepers, connecting bar, operating handle mechanism, latch spring, and necessary washers, rivets, and bolts to mount hardware on door and wall. For doors mounted in pairs — above members, top and bottom bolts and top and bottom bolt keepers for standing doors.

Hardware for sheet metal doors is essentially the same as tin-clad doors with minor differences to conform to the door construction of various manufacturers.

Listing marks are applied to each hinge strap, hinge bracket, connecting bar, and catch for single doors, and for doors in pairs, also to each latch, each top and bottom bolt and keeper for the standing door, and to each hinge wall strap.

The basic standards used to investigate products in this category are UL 14B, "Sliding Hardware for Standard Horizontally" and UL 14C, "Swinging Hardware for Standard Tin-Clad Fire Doors".

The listing mark of National Accreditation and Management Institute Inc. on the product is the only method provided by NAMI to identify products manufactured under its certification and listing program. The listing mark for these products includes the NAMI symbol together with the word "LISTED," a control number, and the product name "Hardware".

Section IV: Test Samples

Products submitted for a fire protection rating or classification consideration shall be:

1. Tested by an approved NAMI Independent Testing Laboratory which complies with the requirements as set forth in ISO/IEC 17025 and is accredited by an approved independent entity;
2. Product shall be representative of those for which a fire protection rating or classification is desired.
3. Product shall be mounted in accordance with the applicable standard's mounting procedures.
4. All testing shall be conducted in accordance with the applicable standard's requirements, and also ensuring that any referenced standard's requirements are met as well.
5. Glazing assemblies shall be considered as meeting the requirements for intended performance when it remains in the opening during the fire endurance test and hose stream test unless the standard or specification being considered specifies otherwise.

Section V: Test Report Review

Test reports will be stamped with the date of receipt within NAMI's Office. The following information is reviewed in the test reports.

1. Test reports shall be reviewed for the following:
 - a. Manufacturer's name;
 - b. Series or model name;
 - c. Specification to which product was tested;
 - d. Date of test completion;
 - e. The materials and construction of the fire door assembly, details of installation including hardware, door frame, and wall anchors, hangers, guides, trim, finish, and

clearance or lap, in order to ensure positive identification and duplication of the fire door assembly in all respects.

- f. Configuration of the door assembly;
 - g. Performance criteria of the door and/or the door assembly;
 - h. Glass type and thickness/glazing system (if utilized);
 - i. Details of the installation, hardware, door frame and wall anchors, hangers, guides, trim, finish and clearance or lap and referenced in order to provide positive identification.
 - j. Reinforcement (where applicable);
 - k. Test sequence;
 - l. Test methods;
 - m. Any variations of furnace exposure time from that which is prescribed and in those cases where it would affect the fire protection rating;
 - n. Laboratory stamped drawings;
 - o. Laboratory stamped bill of materials;
 - p. Laboratory stamped assembly drawings;
 - q. Performance of the product under the specified exposure period chosen from the following;
 - 1. 20 minute
 - 2. 30 minute
 - 3. ¾ hour
 - 4. 1 hour
 - 5. 1 ½ hour
 - 6. 3 hour
 - 7. 4 hour
 - r. The alphabetical letter designation, if employed, to classify the opening for which the product is considered suitable;
 - 1. Class A – Openings in fire walls and in walls that divide a single building into fire areas.
 - 2. Class B – Openings in enclosures of vertical communications through buildings and in 2-hour rated partitions providing horizontal fire separations.
 - 3. Class C – Openings in walls or partitions between rooms and corridors having a fire resistance rating of 1 hour or less.
 - 4. Class D – Openings in exterior walls subject to severe fire exposure from outside of the building.
 - 5. Class E – Openings in exterior walls subject to moderate or light fire exposure from outside of the building.
 - s. Any flaming on the unexposed surface of the door leaf (size, duration and time of occurrence);
 - t. Average door to frame clearances measured at the top, hinge stile, latch stile and bottom.
 - u. Pressure measurements made in the furnace and the location of such measurements relative to the top of the door;
 - v. Hose Stream test results (if required);
 - w. Any separations or movement of the door or assembly.
 - x. The magnitude and direction of any separations or movement of the door or assembly.
 - y. Any observations which might have a bearing on the product's performance;
 - z. The actual duration of the fire test.
 - aa. Additional Information;
- 2. Test reports shall be reviewed for compliance and completion to the appropriate test specification;
 - 3. Assembly and extrusion drawings shall be reviewed for compliance and completion to the appropriate test specification;
 - 4. Bill of materials shall be reviewed for test laboratory stamp which authenticates materials used in tested unit;

6. Compare test report to specification to determine that all tests were performed;
7. Determine that all test report findings were within tolerance or passed for rating stated by testing laboratory.
8. The inspection data recorded is of a proprietary nature and is only used as the reference material for issuance of the formal Inspection Report which will be forwarded to the license within thirty (30) days of the inspection.

Section VI: Notice of Product Certification

Upon successful completion of the review process and in compliance with NAMI's Certification Procedural Guidelines, a Notice of Product Certification and Listing will be issued by the Administrator. The Notice of Product Certification and Listing shall contain the following information:

1. Manufacturer's Name, Location and Code Number;
2. Test Specification and product rating and classification;
3. Product Model/Series and brief description;
4. Configuration/glazing type/any additional applicable information;
5. Maximum frame and sash/panel/vent size;
6. Test report number;
7. Test laboratory name;
8. Certification date;
10. Revision dates;
10. Required label information, type and placement;
11. Authorized signature.

Upon granting certification, the certified product will be listed in NAMI's Certified Products Directory at www.Namicertification.com. The actual certification will also be uploaded into the directory for public access.

Section VII: In-Plant Inspections

Inspections will be performed in accordance with NAMI's Certification Procedural Guidelines.

Inspections for fire rated products will be performed a minimum of twice per year or more as required by authorities having jurisdiction.

With or without prior notice, NAMI reserves the right to visit the Licensee's place or places of manufacture, assembly or shipment of certified products to determine continuing compliance with the requirements of the program. The Licensee shall notify NAMI of all scheduled plant closings.

The NAMI Inspector/Product/Plant Evaluator will be performed by NAMI personnel different from those that granted certification as required by ISO/IEC 17065.

Licensee must provide an inspection point of contact at each facility to assist the Inspector in the performance of his duties in a safe and efficient manner. Complete access must be permitted within the facility where certified products are manufactured, assembled or stored and quality control records are maintained. The Licensee's refusal to allow access to places essential for inspection, without cause, will be reason to deny product certification, authorization and/or revocation of initial product certification.

Inspections will be performed in accordance with ISO/IEC 17020, "General Criteria for the Operation of Various Types of Bodies Performing Inspections".

The inspection shall be a review of the independently tested unit to the product fabricated at the manufacturing location. The inspection report shall include, but not limited to the accumulation of the following information:

1. Manufacturer's Name/Location/Code Number;
2. Date of Inspection;
3. Name of contact person or persons;
4. Series/product name of each product reviewed;
5. Status of each product certified/record changes;
6. Product size (where applicable);
7. Product reviewed for compliance and/or discrepancies to test report;
8. Record extrusion thickness and dimensions (where applicable);
9. Mark production units for testing with permanent marking/state date of Inspection and initial product;
10. Review quality assurance program/processes and record discrepancies and/or changes to program;
11. Verify quality assurance manual on file;
12. Verify label inventory and usage;
13. Verify label records showing accountability to distributed products or assemblies;
14. Verify label placement and mounting;
15. Hardware-operators and locking mechanisms;
16. Counter-Balance system;
17. Reinforcement (where applicable);
18. Builders hardware;
19. Fire door hardware;
20. Glazing system;
21. Any additional information.

At the conclusion of the inspection, an inspection report will be generated in order to outline any findings of product non-compliance. The Licensee shall notify NAMI of the proposed corrections in writing within the allowable time period commencing with the date of receipt of the inspection report as follows:

1. Fifteen (15) business days; Defects and deviations of the product or processes which would have a negative impact on the performance results from that of the test sample. Labels may NOT be applied until corrections have been made and approved by NAMI.
2. Thirty (30) days: Minor defects or deviations to the product or processes which do not render the product inoperative or unsafe. Labels may continue to be applied during this time.

If notice of corrective action is not received by NAMI within the specified time period, or a test report of the sample with the modifications is not received, a certified letter with a "Notice of Product De-Listing" will be issued to the Licensee.

Upon receipt of the "Notice of Product De-Listing", the "Notice of Product Certification and Listing" and all certification labels for the designated product must be forwarded to NAMI. NAMI will use ISO/IEC 17030, "Guidelines for corrective action to be taken by a certification body in the event of misuse of its mark of conformity".

Inspections will include review of manufacturer's quality assurance program, including manual, documentation and personnel. All documentation must be maintained for a period of ten (10) years.

Inspectors shall review with the Licensee any changes in standards or NAMI documents. Updated versions of NAMI documents shall be provided where applicable.

Section VIII: Glazing

All glazing utilized in fire rated doors and assemblies shall be labeled and shall meet all applicable safety standards.

All glazing materials shall meet the requirements of the following specifications:

1. NFPA 80 Standard for Fire Doors and Other Opening Protectives
2. NFPA 257 Fire Tests of Window Assemblies
3. ISO 3009 Fire Tests of Window Assemblies
4. UL 9 Fire Tests of Window Assemblies
5. UBC 7-4 Fire Tests of Window Assemblies

Glazing material shall be installed in labeled frames or in tested frames in accordance with the fire door certification. Glazing material shall not be used in fire doors having a 3-hour protection rating or fire doors having a 1 ½-hour fire protection rating for use in severe exterior fire exposure locations with exception of glazing material, with no through-opening, not exceeding 100 in² (0.065 m²) shall be permitted when tested in accordance for the desired rating period in accordance with NFPA 252:

1. For fire doors having a maximum rating of 1/3 and 1/2 hour – glazing is limited to the maximum area tested.
2. For fire doors having a maximum rating of 3/4 hour – glazing is limited to the maximum area tested with the exception of the exposed lights having a maximum of 1296 in² (0.84 m²) with no dimension exceeding 54 in. (1.37 m) unless otherwise tested.
3. For fire doors having a maximum rating of 1, 1 1/2 hour – glazing is limited to the maximum area tested with the exceptions stated in section 1-7 of the NFPA 80.
4. For fire doors having a maximum rating of 3 hours – glazing is limited to the 100 in.² (0.065 m²).

Each individual glazing unit shall be identified with a label and shall be visible after installation. Transparent composite panels used in fire-rated door assemblies shall comply with the requirements as set forth in section 1-8 of the NFPA 80.

Section IX: Re-Testing

Certification for the product shall be provided indefinitely based on the original test date of the test report, provided the governing standards and specification to which the product rating/classification is based on, changes the requirements.

NAMI grants these ratings/classifications based on the reasoning that continuous inspections have been performed to verify that no changes or unauthorized modifications have been made during the period of certification at the Licensee's manufacturing locations.

Certification shall be maintained as long as no unauthorized modifications have been made to the product. Re-testing will be required if modifications are made and/or if new or revised standards have been introduced to the industry. NAMI will notify participants of pending or required changes to new or changed standards and the requirements needed to meet these standards.

Section X: Labeling

When a Notice of Product Certification and Listing are issued, a label is required to be placed on any product claiming certification status. All Fire Rating and Classification labels must be purchased through NAMI. Fire Rating and Classification labels:

1. Shall only be applied to products authorized for the rating and classification for which NAMI has approved.
2. Shall show the name of the manufacturer, the name of the third-party inspection agency, the fire protection rating and where required for fire doors in exit enclosures and exit passageways, the maximum transmitted temperature end point.
3. Shall contain a statement designating whether a hose stream test was conducted in accordance with NFPA 80.

4. Shall contain a statement designating whether the product is positive or neutral pressure rated in accordance with NFPA 80.
5. Shall contain a statement designating the minimum latch throw tolerance in accordance with NFPA 80.
6. Shall contain the following statement “Do Not Remove or Cover This Label”.
7. Shall only be applied at the location where fabrication and assembly are performed.
8. Shall contain a sequential numbering system that is displayed on the face of the label in order to aid in accountability and traceability.
9. Shall be permanently affixed.
10. Shall be kept in a secure location to which only authorized personnel have access.
11. Shall be individually traceable to the product that it was affixed by maintaining production records showing which product received the appropriate label.
12. Shall be under the control of Quality Control Personnel who maintains documentation that the product was under the scrutiny of the Quality Control Personnel and complies with the appropriate specification.
13. Shall follow the guidelines of the NFPA 80 concerning the material and mounting of the label and the required information that must be displayed.

The NAMI Fire Certification and Listing Program for Fire Doors and Other Protective Openings classifies new fire doors by one of the following designation systems:

1. An hourly rating
2. An alphabetical letter designation
3. A combination of both (a) and (b)
4. An “S” designation for products utilized as smoke and draft control.
5. For horizontal access doors, a special listing indicating the fire-rated floor or floor-ceiling assemblies for which the product may be permitted for use.

Labeling of fire rated/ classification doors cover only the design and construction of the door with the following exceptions;

1. On fire doors bearing the label reading “Fire Door To Be Equipped with Fire Exit Hardware,” the label shall cover the reinforcements or construction features necessary for the exit devices that are required to bear the label reading “Fire Exit Hardware”.
2. On doors bearing the label reading “Fire Door,” the label shall include the following:
 - a. On rolling steel doors – wall guides, counterbalancing, and automatic mechanisms.
 - b. On steel sectional (overhead) doors – hinged steel panels, wall guides, interlock at the top edge, vertical and horizontal tracks, roller wheels, counterbalancing, automatic-closing mechanisms, and governors.
 - c. On elevator doors – see section 4.3 of the NFPA 80.
3. On doors bearing the label reading “Frame and Fire Door,” the label shall also include the following:
 - a. On access doors – the frame, hinging, and latching mechanism.
 - b. On acoustical doors – the frame, sill, and latching mechanism
 - c. On chute doors – the frame, hinging, latching, and closing mechanism.
 - d. On dumbwaiter doors – see section 4.3 of the NFPA 80.
 - e. On service counter doors – frames, counters, wall guides, counterbalancing, and automatic-closing mechanisms.
 - f. On material conveying systems – the frame, sill guides, and automatic-closing systems.
 - g. On oversize doors – Authorities having jurisdiction shall be consulted on the allowable sizes for a particular location.

Each individual glazing unit shall be identified with a label and shall be visible after installation.

Fire doors and fire door assemblies utilized as a smoke and draft control door and meeting the requirements as set forth in UBC-7-2 and UL-10C, parts I and II will be eligible to bear an “S” on the label indicating that the fire door or fire door assembly is acceptable for use in areas where such is required.

In cases where a label has been incorrectly applied, corrective field labeling will occur. The Licensee must initially contact NAMI and state the location and problem that has occurred. NAMI will forward the NAMI Manufacturers Corrective Action Form (MFGCPF) for completion by the Licensee. Clearly define the problem, location and the corrective action that has been taken to prevent future occurrences of incorrect labeling. Forward the MFGCPF Form to NAMI.

The Licensee must appoint an individual-in-responsible charge to correct the field labeling issue. This person must have the credentials and ability to verify the certified and/or listed product in the field. Notify NAMI of the individual-in-responsible charge’s name. The individual-in-responsible charge must verify the correct certified or listed product in the field, and then apply the correct label to this product. This person must also document the serial number of the old label and the serial number of the new label that has been applied in the field.

Upon completion of the corrective field labeling, the person-in-responsible charge must provide a written report of the corrective action that was performed in the field. The report at a minimum must contain the following:

1. Name of company
2. Date of corrective action
3. Location where corrective action was performed
4. Name of Person-In- Responsible Charge
5. Serial number of old label
6. Serial number of new or replacement Label
7. Signature of Person-In-Responsible Charge

Under no circumstances shall unattached labels be distributed or otherwise allowed to leave the direct control of designated authorized personnel without express permission of NAMI.

Note: All of the guidelines within this addendum are in addition to NAMI’s Certification Programs Procedural Guidelines

APPENDIX J

NAMI'S PROFILE CERTIFICATION PROGRAM

This document is a supplement and is intended to be used in conjunction with NAMI's Certification Program Procedural Guidelines.

Section I: General

1. Requirements of profiles may vary by product type and jurisdictional requirements. The NAMI Profile Certification Program allows the Licensee the flexibility of having their product tested to the standard or standards which would apply to their region and product type. The Licensee should establish which standard(s) apply to their region and/or product type.
2. Certifications issued by the NAMI Administrator represents that the product(s) conform to the applicable standard to which it was tested. Interested parties should visit www.namicertification.com to assure that the product(s) are active and currently listed. Products not visible on the NAMI website shall be considered inactive and/or not certified. Licensees should routinely visit the NAMI website to review the product listings to ensure that the information displayed is accurate and current.
3. The NAMI Profile Certification Program is applicable to only profiles that the NAMI Administrator has authorized for certification. The individual colors, compounds or the extruder, itself, is not authorized for certification.

Section II: Test Standards

1. NAMI's Profile Certification Program provides for equitable administration, evaluations, decisions and enforcement through the use of the standards as defined in Section 2.1 of NAMI's Certification Program Procedural Guidelines, including but not limited to:
 - a. AAMA 303, Voluntary Specification for Rigid Polyvinyl Chloride (PVC) Exterior profiles;
 - b. AAMA 304, Voluntary Specification for Acrylonitrile-Butadiene-Styrene (ABS) Exterior Profiles Capped with ASA or ASA/PVC Blends;
 - c. AAMA 305, Voluntary Specification for Fiber Reinforced Thermoset Profiles;
 - d. AAMA 308, Voluntary Specification for Cellular Polyvinyl Chloride (PVC) Exterior Profiles;
 - e. AAMA 309, Standard Specification for Classification of Rigid Thermoplastic/Cellulosic Composite Materials;
 - f. AAMA 310, Voluntary Specification for Reinforced Thermoplastic Fenestration Exterior Profile Extrusions;
 - g. AAMA 311, Voluntary Specification for Rigid Thermoplastic Cellulosic Composite Fenestration Exterior Profiles;
 - h. AAMA 613, Voluntary Performance Requirements and Test Procedures for Organic Coatings on Plastic Profiles;
 - i. AAMA 614, Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Plastic Profiles;
 - j. AAMA 615, Voluntary Specification, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Plastic Profiles;
 - k. ASTM D4726, Standard Specification for Rigid Poly Vinyl Chloride (PVC) Exterior Profile Extrusions Used in Assembled Windows and Doors;

- l. ASTM D2244, Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates – C Source and 2-degree Observer;
 - m. ASTM D4216, Standard Specification for Rigid Polyvinyl Chloride (PVC) and Related PVC and Chlorinated Polyvinyl Chloride (CPVC) Building Products Compounds;
 - n. ASTM E1613, Standard Test Method for Determination of Lead by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-EAS), Flame Atomic Absorption Spectrometry (FAAS), or Graphite Furnace Atomic Absorption Spectrometry (GFAAS) Techniques;
 - o. ASTM E1753, Standard Practice for Use of Qualitative Chemical Spot Test Kits for the Detection of Lead in Dry Paint Films;
 - p. NAMI Procedural Guide
2. If any revisions are made to these referenced standards, NAMI will review the effect of such revisions on the Licensee's Products. NAMI will notify each Licensee of the date such revisions shall become effective.

Section III: Qualification Test

1. Upon initial enrollment, the Licensee shall be required to submit to NAMI, a list of all profiles to be considered for certification and listing. The list of profiles shall include the following:
 - a. Frames;
 - b. Sashes;
 - c. All structural profiles related to glass retention;
 - d. All structural profiles that divide glazing lites within a common master frame.
2. The Licensee shall initially submit a Letter of Material Compliance and a minimum of 12-month weathering data for compounds and composites, indicating the base compound or composite compliance per the corresponding profile specifications in Section XI, Appendix J of the NAMI Procedural Guide. The Letter of Material Compliance shall list the test results for each property tested and shall include the date testing was performed. The test data shall be considered valid indefinitely, unless the material has changed or the standard(s) dictates otherwise.
3. Licensees shall initially submit a list of all color coatings to be included for certification, including detailed information on the supplier and documentation indicating conformance with the applicable standards. This information shall be submitted in writing on the NAMI Suppliers Registration Form and will be listed on the NAMI website supplier directory.
4. Licensees shall initially submit a list of all applied laminate types and adhesives to be included for certification, including detailed information on the supplier and documentation indicating conformance with the applicable standards. This information shall be submitted in writing on the NAMI Suppliers Registration Form and will be listed on the NAMI website supplier directory.
5. Licensees shall initially submit detailed dimensional drawings of all profiles considered for certification and listing, including detailed information concerning compound and composite make-up and identification, colors and nominal running weights.
6. Licensees shall initially submit a list of all colors and cap stocks for each profile to be included for certification.
7. The Licensee shall be required to develop and implement a quality assurance manual in accordance with Appendix F of the NAMI Procedural Guide. The Licensee's quality assurance manual, all required documentation and records shall be maintained in accordance with the guidelines set forth in Appendix F of the NAMI Procedural Guide.
8. The Licensee shall select a minimum of 10% of all profiles submitted to NAMI for certification, permanently mark them and forward to an approved NAMI Test Laboratory for testing to determine

compliance. Samples shall be selected from the most recent production material available for each profile sampled.

9. The Licensee shall select an additional sample of a main frame and a sash profile representing each compound, composite, coating, applied laminate type, and color, included in the list submitted to NAMI for certification, for weathering testing. In most cases, all exposed surfaces of the profiles, as installed in the final product, are covered with an opaque surface coating. In these instances, only the coated surface portion of the profile requires the weathering test, and not the substrate.
10. If the Licensee contracts with a third-party applicator and/or laminator, the Licensee shall procure the appropriate samples, as required for testing, and submit the samples to an approved NAMI Test Laboratory.
11. The Licensee shall select and forward appropriate test samples to an approved NAMI Test Laboratory, in accordance with the applicable standards and the Test Laboratory requirements. The Test Laboratory will test and report the findings of the submitted samples, in accordance with the reporting requirements of the applicable standards and ISO/IEC 17025. All costs associated with testing shall be the responsibility of the Licensee.
12. The Test laboratory shall retain all test sample profiles, drawings and materials utilized in the testing process for a minimum of five years.
13. The Licensee shall forward or instruct the Test Laboratory to forward the reported results of the testing to NAMI for review and consideration for certification.
14. Licensees with multiple production facilities may produce certified profiles using an equivalent ingredient grades and current formulations of compound and composites, without having to individually undergo the initial 12 month weather exposure testing, prior to the profile being certified. Each location shall attest in writing that the ingredient grades and current formulations are identical and have passed the complete weathering requirements at the main location, as specified in Section XI, Appendix J of the NAMI Procedural Guide. However, the multiple production facilities shall be subjected to and shall comply with all program requirements, except as noted; in order to be listed as a production site for certified profiles.
15. Licensees with multiple production sites shall make available on demand all proof of purchases for compound and composite materials or formulations quantities and ingredients purchased that comprise the certified lineal being produced.
16. Licensees, who contract a third-party applicator for coatings and laminates, shall submit in writing an inspection plan of the third-party applicator and/or laminator. These inspections shall be conducted on a semi-annual basis and shall include sampling guidelines and conformance criteria, as specified in the applicable standards.
17. Licensees shall verify and submit in writing a Letter of Material Compliance that any material produced by a third-party supplier complies with the requirements of this section, verifying that no lead has been added to the profiles that are intended to be used or sold in the United States or Canada. If the third-party supplier produces, distributes or resells profiles containing lead above the stated levels, at the same location as profiles intended to be sold in the United States or Canada, the Licensee shall verify to NAMI in writing that these profiles will not be sold or used in the United States or Canada, under any circumstances.
18. Licensees shall be able to use reprocessed material in certified profiles, provided that the reprocessed material consists of the same type of compounds and composites as the certified profile compound and composites and meets all of the same performance criteria.

19. Licensees shall not produce and/or finish profiles for fenestration applications that are to be sold in the United States and Canada with lead added. Lead shall not be added to any compound, composite, organic coating, or applied laminate used in certified or non-certified profiles intended for use or sale in the United States or Canada. The lead content shall be less than 0.02% by weight for the substrate or any surface treatment. Trace amounts of lead from external sources shall be less than 0.02% by weight for the substrate or any surface treatment.
20. Licensees shall reaffirm, on an annual basis that the certified profiles continue to meet the requirements of the applicable standard(s) and Appendix J of the NAMI Procedural Guide.
21. Licensees, who have previously tested products, may have their products “grandfathered” into the certification program upon meeting all requirements for program participation and provided that the profiles have been under an approved equivalent certification program/listing.

Section IV: Notice of Product Certification

1. NAMI shall review all applicable test reports, test data and profile drawings for completeness and compliance to the applicable standards and program guidelines.
2. Upon successful completion of testing and a review of the test report, a Notice of Product Certification shall be issued. The Notice of Product Certification will contain a certification mark that will be unique for that product line. The certification mark will consist of:
 - NAMI: Denotes National Accreditation & Management Institute’s Profile Certification Program.
 - PXXXX-X.X.: The five digits will be a number that is the identification code that NAMI has designated for the Licensee’s product and manufacturing location.
3. Certification is granted based off of the initial test date and is contingent on the requirement that the compound, composite, organic coating, applied laminate used in the certified profile(s) or the manufacturing process used to make the certified profile(s) has not deviated from the criteria as specified in the submitted test report.
4. Certification shall be ongoing and is contingent on the requirement that the compound, composite, organic coating, applied laminate used in the certified profile(s) or the manufacturing process used to make the certified profile(s) has not deviated from the criteria as specified in the submitted test report.
5. Certification shall be maintained as long as the Licensee demonstrates continued compliance with all program requirements.
6. Certification shall expire under the following conditions:
 - a. Voluntary written withdrawal of the profiles by the Licensee;
 - b. Failure to comply with the program requirements, as determined by the NAMI Administrator;
 - c. Repeated weathering test failure;
 - d. Repeated lead content failure.

Section V: Application of Certification Mark

1. Upon notification of product certification, the Licensee may identify profiles fabricated within that profile product line with the authorized NAMI Certification Mark.
2. The NAMI Certification Mark is a registered trademark that is listed with the U.S. Patent trademark Office and is coded for identification of the Licensee and the location in which certified profiles are authorized to be produced.
3. Labels bearing the NAMI Certification Mark may be obtained from NAMI. Unused labels shall be returned to NAMI or destroyed immediately upon termination of the license agreement by NAMI or the Licensee.
4. Upon suspension or revocation of product certification authorization, the Licensee shall immediately cease using the NAMI Certification mark and/or return all unused certification labels to NAMI within (10) business days after the date of suspension or revocation.
5. The NAMI Certification Mark serves to identify profiles that conform to the procedures established by the applicable standards and the NAMI Procedural Guide.
6. The Licensee, by affixing the certification mark or label, is stipulating that the product is representative of the test specimen that was evaluated and certified.
7. The certification label or the certification mark shall only be applied to products or product packaging for products authorized for NAMI Certification.
8. Package marking or labels bearing the NAMI Certification Mark shall bear the words, "Manufacturer stipulates compliance to" and the applicable standard to which the product was tested to. The label shall also provide traceability in displaying the unique certification mark that was issued by NAMI for the product line that the certification mark was issued to.
9. Format and the size of the package marking or labels bearing the NAMI Certification Mark shall be at the discretion of the NAMI Administrator.
10. Labels bearing the NAMI Certification Mark are permitted to be affixed to the container or carton containing the certified profiles. Licensee's have the option to utilize different methods for conformance marking in accordance with this section. However, the format, content and layout of methods utilizing the NAMI Certification Mark must be approved in writing by the NAMI Administrator.
11. Package marking or labels bearing the NAMI Certification Mark shall only be permitted to be affixed at the authorized profile production facility.
12. Package marking or labels bearing the NAMI Certification Mark for products manufactured in or outside the United States and Canada, the following shall apply:
 - a. Package marking or labels bearing the NAMI Certification Mark shall bear the words, "Manufacturer stipulates compliance to";
 - b. Package marking or labels bearing the NAMI Certification Mark must state the country/countries of origin;
 - c. Package marking or labels bearing the NAMI Certification Mark must bear the NAMI Notice of Product Certification; identification code that is unique to the Licensee and that was issued to the Licensee by the NAMI Administrator;
 - d. Package marking or labels bearing the NAMI Certification Mark shall be in English and legible to the unaided eye;

- e. Package marking or labels bearing the NAMI Certification Mark shall be applied in such a manner as to remain visible at the point of sale, delivery and until the assembled fenestration product is installed.
13. The Licensee shall designate an individual responsible for managing all aspects of labeling, including the procurement, safeguard, handling and use of labels bearing the NAMI Certification Mark.

Section VI: Conditional Approval

1. Due to the length of the testing process, the NAMI Administrator may grant conditional approval for profiles submitted for certification consideration under the following conditions:
 - a. If the profile is made of a “known” compound and color, meaning that the profile is made of the same compound and color combination as previously used in a different profile that has already passed the weathering requirements of the applicable standards.
 - b. If the Licensee can provide evidence, such as the material test data indicating that the compound or composite complies with the corresponding profile specifications as specified in Section XI, Appendix J of the NAMI Procedural Guide.
 - c. If the Licensee can provide evidence, 2000 hours of UV Fluorescent Light Exposure per the ASTM G154, Cycle 1 color hold (determined to be in accordance with the Hunter Lab color space system using C Source and 2 degree observer (C/2°) per ASTM D2244) data comparing the current compound or composite formulation to the additional compound or composite. The relative difference between the current DE and the additional compound or composite DE shall be 1.0 or less.
 - d. If the Licensee has conducted the above test(s) either at a NAMI approved testing laboratory or has conducted the testing in-house, with the exception of the weathering test.
 - e. The NAMI Administrator reserves the right and is responsible for decisions relating to granting, maintaining, extending, suspending, and withdrawing authorization for certification, within the parameters as specified in this appendix and the NAMI Procedural Guide.
2. If the profile submitted for certification consideration requires weathering testing in accordance with the applicable standards, the NAMI Administrator may grant conditional approval for profiles that have met the above stated conditions in interim, if the Licensee has a weathering test pending.
3. Proof of on-going testing shall be documented using the NAMI Laboratory Submittal/ Verification Form for NAMI Profile Test Samples (PCP-LSF-Current Revision). The NAMI Approved Test Laboratory shall forward the completed NAMI Laboratory Submittal/Verification Form for NAMI Profile Test Samples to NAMI verifying that weathering testing is in progress.
4. Due to the length of the testing process, the NAMI Administrator may grant conditional approval for profile additions or modifications submitted for certification consideration under the following conditions:
 - a. If the profile additions or modification is made of a “known” compound and color, meaning that the profile is made of the same compound and color combination as was used in a different profile that has already passed the weathering requirements of the applicable standards.

- b. If the Licensee can provide evidence, such as the material test data indicating that the compound or composite additions or modification complies with the corresponding profile specifications as specified in Section XI, Appendix J of the NAMI Procedural Guide.
 - c. If the Licensee can provide evidence, 2000 hours of UV Fluorescent Light Exposure per the ASTM G154, Cycle 1 color hold (determined to be in accordance with the Hunter Lab color space system using C Source and 2 degree observer (C/2°) per ASTM D2244) data comparing the current compound or composite formulation to the additional compound or composite. The relative difference between the current DE and the additional compound or composite DE shall be 1.0 or less.
5. If the Licensee has conducted the above test(s) either at a NAMI approved testing laboratory or has conducted the testing in-house.
6. Due to the length of the testing process, the NAMI Administrator may grant conditional approval for coating and laminate additions and modifications submitted for certification consideration under the following conditions:
 - a. If the Licensee can provide evidence that the additional and/or modified coating and/or laminate is based on the same chemistry and/or is manufactured in the same manner as an existing coating and/or laminate currently authorized to bear the NAMI Certification mark.
7. The NAMI Administrator reserves the right and is responsible for decisions relating to granting, maintaining, extending, suspending, and withdrawing authorization for certification, within the parameters as specified in this appendix and the NAMI Procedural Guide.

Section VII: Laboratory Test Failure

1. If any specimen(s) or group of specimens selected for testing during normal in-plant inspections or during the conditional approval period fails for any property other than lead content and/or weathering, the Licensee shall select a new specimen or a new group of specimens and forward to a NAMI approved testing laboratory within 60 days, unless special circumstances exist. The number of specimens collected shall be the same number and type as the previous sample size and shall have the same applied laminates or coatings as the failed specimens. The specimens shall be permanently marked.
2. If failure occurs on an applied laminated or coated profile, the Licensee shall select a new specimen or a new group of specimens having the same applied laminate, adhesive, coating or color and forward to a NAMI approved testing laboratory within 60 days, unless special circumstances exist. The number of specimens collected shall be the same number as the previous sample size and shall have the same applied laminates or coatings as the failed specimens. The specimens shall be permanently marked.
3. If any re-tested sample fails to meet any of the test requirements, the NAMI Administrator shall immediately suspend the certification authorization for the specific profile, until successful retesting has been completed and the results of which have been reviewed by NAMI.
4. If the results from the re-tested sample(s) or sample group successfully pass the requirements of the applicable standards, the result of the original test failure and the re-testing results shall be maintained for a minimum of 5 years.
5. If a specimen(s) or specimen group fails to meet the weathering requirements, as specified by the applicable standard, the Licensee shall immediately inform NAMI upon receipt of the test results. The Licensee shall select a new specimen or a new group of specimens having the same applied laminate, adhesive, coating or color and forward to a NAMI approved testing laboratory within 60 days, unless special circumstances exist. The number of specimens collected shall be the same

number as the previous sample size and shall have the same applied laminates or coatings as the failed specimens. The specimens shall be permanently marked.

6. If a specimen(s) or specimen group fails to meet the lead content requirements, during the in-plant inspection to detect the presence of lead, the Licensee shall immediately select specimens for testing using the atomic absorption test in accordance with the ASTM E1613, in order to confirm the presence of lead content in excess of 0.02% by weight. The Licensee shall select a new specimen or a new group of specimens having the same applied laminate, adhesive, coating or color and forward to a NAMI approved testing laboratory within 60 days, unless special circumstances exist. The number of specimens collected shall be the same number as the previous sample size and shall have the same applied laminates or coatings as the failed specimens. The specimens shall be permanently marked.
 - a. If the lead content failure is confirmed by atomic absorption testing, a special inspection shall be conducted by NAMI. The Licensee's entire certified and uncertified profiles intended for sale in the United States and Canada shall be subject to inspection. Within 7 days of receipt of the chemical spot test results, NAMI shall notify the Licensee in writing of the confirmation of lead by atomic absorption testing, the intent to conduct a special inspection, and the number of certified profiles to be inspected.
 - b. If the Licensee contracts with a third-party applicator and/or laminator, the Licensee shall be responsible for procuring specimens for selection by the NAMI Inspector.
 - c. The NAMI Inspector shall conduct an inspection of the Licensee's production facility and shall select specimens for testing at a NAMI approved laboratory.
 - d. If the test results of the NAMI special inspection confirm the presence of lead in excess of 0.02% by weight, all profiles of any compound or composite and all colors, paint types, applied laminate types and/or profiles associated with a third-party supplier of the failed profile shall their certification rescinded. NAMI shall notify all Fabricators, who use the Licensee's profiles, that these profiles are no longer certified due to lead content and that the profiles may not be used in any NAMI certified fenestration assembly.
 - e. If any profile that has had the NAMI certification rescinded successfully passes retesting and has certification reinstated, fails any lead content in future inspections, this failure shall be treated as a second failure and shall immediately be subjected to the conditions as stated in Section VII.6.e, Appendix J of the NAMI Procedural Guide.
 - f. The cost(s) associated with the special inspection shall be borne by the Licensee.
7. The Licensee shall have the right to voluntarily withdraw any profile from the NAMI Profile Certification Program.
8. All costs for re-testing shall be borne by the Licensee.

Section VIII: Re-Qualification Testing

1. If a NAMI certified profile has been disqualified as a result of any physical test failure, with the exception of weathering and/or lead content test failure, the Licensee may request in writing to have the profile re-qualified, if the following criteria have been met:
 - a. The process for requalification shall be the same as stipulated in Section III, Appendix J of the NAMI Procedural Guide. All sampling selection and testing processes shall be repeated.

2. If a NAMI certified profile has been disqualified as a result of weathering test failure, the Licensee may request in writing to have the profile re-qualified, if the following criteria have been met:
 - a. The request is accompanied by a 12 month weathering test report from a NAMI approved testing laboratory, indicating that the profile meets the requirements as stipulated in Section XI, Appendix J of the NAMI Procedural Guide.
 - b. The request is accompanied by a test report from a NAMI approved testing laboratory, indicating that the profile meets the material cell classification or material specifications, as stipulated by the applicable standard.
3. For substrate, physical property testing is not needed, if the compound and/or composite of the substrate is unchanged from that of another certified profile, only the weathering requirement must be repeated.
4. Re-qualification shall not be permitted until all outstanding invoices for cost(s) incurred for program participation have been reconciled.
5. Re-Qualification shall not be permitted until all required qualification testing has been conducted and the Licensee has shown compliance with all of the requirements, as stated in Appendix J of the NAMI Procedural Guide.

Section IX: In-Plant Inspections and QA Documentation Reviews

1. Inspections will be performed in accordance with the NAMI Certification Program's Guidelines.
2. Inspections of Licensee's production facilities will be conducted on an annual basis.
3. The inspection and the inspection report shall consist of, but not limited to the accumulation of the following information and verification checks:
 - a. Manufacturer's name, location and assigned code number;
 - b. Date of inspection;
 - c. Name of contact person(s);
 - d. Profile(s) inspected;
 - e. Required in-house test inspections to be performed and their frequency;
 - f. Verification of material compliance for all certified profiles;
 - g. Verification of material compliance for all third party suppliers and applicators;
 - h. Verification of weathering testing data and documentation;
 - i. Verification of lead content data and documentation;
 - j. Quality assurance practices and documentation;
 - k. Quality assurance practices pertaining to the manufacturing process;
 - l. Quality assurance practices pertaining to addressing non-compliance issues in relation to the profile specification requirements;
 - m. Quality assurance practices pertaining to the sampling of profiles for the required testing requirements of the applicable standard;
 - n. Verification of third-party applicator and/or laminator inspection plan(s) and/or collected documentation;
 - o. Any additional information.
4. During each inspection, the NAMI Inspector shall select a minimum of 10% of all profiles submitted to NAMI for certification and permanently marked them. The Licensee shall then forward the selected profiles to an approved NAMI Test Laboratory for testing to determine compliance. Samples shall be selected from the most recent production material available for each profile

sampled. In addition, weathering samples shall be obtained annually or whenever a coating or applied laminate change occurs.

5. Profile samples selected for testing shall be tested in accordance with the guidelines in Section XI, Appendix J of the NAMI Procedural Guide.
6. If all exposed surfaces of the profiles, as installed in the final product, are covered with an opaque surface coating or applied laminate, only the covered surface of the test samples need to be tested for weathering and not the underlying substrate.
7. If the Licensee contracts with a third-party applicator and/or laminator, the Licensee shall procure the appropriate samples, as required for testing, and have the samples available for the NAMI Inspector, at the time of inspection.
8. During each inspection, the NAMI Inspector shall conduct a verification of lead content on a minimum of 10 samples profiles, by conducting a chemical spot test in accordance with the procedures in the ASTM E1753, Standard Practice for Use of Qualitative Chemical Spot Test Kits for the Detection of Lead in Dry Paint Films.
9. During each inspection, the NAMI Inspector shall review the Licensee's quality assurance program and documentation to determine compliance to Appendix F of the NAMI Procedural Guide.
10. For Licensees, who contract a third-party applicator for coatings and laminates, the NAMI Inspector shall review the inspection plan and evidentiary documentation of the annual audits/inspections of the third-party applicator and/or laminator, ensuring that the third-party applicator and/or laminator maintains conformance to the requirements, as stated in the applicable standards. These inspections shall be conducted on an annual basis and shall include sampling guidelines and conformance criteria, as specified in the applicable standards.
11. Licensees shall reaffirm at the time of inspection that the Licensee complies with the requirements of this section, verifying that no lead has been added to the profiles that are intended to be used or sold in the United States or Canada.
12. Licensees shall reaffirm at the time of inspection that any material produced by a third-party supplier complies with the requirements of this section, verifying that no lead has been added to the profiles that are intended to be used or sold in the United States or Canada.
13. Licensees shall reaffirm and produce evidence at the time of inspection that the formulation and equivalent ingredient grades used to produce certified profiles have not changed and that the performance of such has not degraded.
14. A review of the Licensee's quality assurance and production documents and records will be conducted on an annual basis.
15. The review and review report shall consist of, but not limited to the accumulation of the following information and verification checks:
 - a. Manufacturer's name, location and assigned code number;
 - b. Date of inspection;
 - c. Name of contact person(s);
 - d. Required in-house test inspections to be performed and their frequency;
 - e. Verification of material compliance for all certified profiles;
 - f. Verification of material compliance for all third party suppliers and applicators;
 - g. Verification of weathering testing data and documentation;
 - h. Verification of lead content data and documentation;
 - i. Quality assurance practices and documentation;

- j. Quality assurance practices pertaining to the manufacturing process;
 - k. Quality assurance practices pertaining to addressing non-compliance issues in relation to the profile specification requirements;
 - l. Quality assurance practices pertaining to the sampling of profiles for the required testing requirements of the applicable standard;
 - m. Verification of third-party applicator and/or laminator inspection plan(s) and/or collected documentation;
 - n. Any additional information.
16. Licensees shall be required to forward all requested documentation to NAMI prior to the start of the review process. NAMI will review all received documentation for compliance to Appendix J of the NAMI Procedural Guide. NAMI may elect to schedule a meeting, via teleconferencing or other electronic methods, with the Licensee's management personnel to discuss any questions or concerns arising from the review. The Licensee shall make available the appropriate personnel at the time agreed upon by NAMI and the Licensee.
17. Licensees shall be required to follow the guidelines set forth in Section 2.11 of the NAMI Procedural Guide in addressing non-compliance issues and corrective/preventive actions.
18. Licensees shall be required to follow the in-process requirements as set forth in the applicable standards to which the products are certified to.

Section X: In-Plant Quality Assurance Requirements

- 1. The Licensee shall maintain a documented quality assurance program in compliance with NAMI's requirements.
- 2. Each manufacturing location shall have a quality assurance manual. The quality assurance manual shall clearly identify the manufacturer's name, street address, phone-numbers, email address and legal status and contact information for the member of the organization identified.
- 3. Each Licensee is required to maintain a quality assurance manual which outlines the quality assurance procedures. The quality assurance manual shall contain at a minimum procedures outlining the following information:
 - a. Manufacturer's name, street address, phone number, email address and legal status.
 - b. Contact information for the member responsible for oversight of the Quality Assurance Program.
 - c. Locations and contact information for multiple locations (if applicable).
 - d. Revision date.
 - e. Procedures for reviewing and updating the quality assurance manual for suitability, accuracy and effectiveness, at a minimum of once every 12 months.
 - f. Procedures for document control.
 - g. Procedures or a process to ensure only current documentation is used in processes directly affecting the quality of the product.
 - h. A production flowchart or a description of the process in which the product is manufactured.
 - i. Procedures for product identification, detailing the description of the product, tolerances, specifications and schematics.
 - j. Procedures outlining the quality checks that are conducted to ensure conformity or compliance to the product certification or requirements as specified in the appropriate standard, as specified in Section XI, Appendix J of the NAMI Procedural Guide.
 - k. Procedures for labeling, labeling control and application of the label.
 - l. Procedures detailing the ability to trace a product and its materials to the point of inception.
 - m. Procedures for the handling, identification, packaging and protection of certified products and/or products approved for certification.

- n. Procedures detailing the actions taken to correct manufacturing defects and/or processes.
 - o. Procedures for documenting and correcting complaints from the general public, building officials or product control inspectors (IE: NAMI). Documentation shall contain any actions taken to prevent further occurrence.
 - p. Procedures for verification/inspection of incoming materials and their ability to conform to the requirements established by the product certification or the applicable standard's requirements.
 - q. Procedures for the handling, segregation and disposition of non-conforming or damaged incoming or in-process material.
 - r. Procedures for the verification of critical measurement devices (IE: Tape Measure and/or Calipers), including the time intervals, procedures for documenting and the traceable standards used.
 - s. Procedures for identification, storage, protection, retrieval, retention time and disposition of records relating to production and quality assurance.
4. The quality assurance manual shall define and indicate a member of the organization, irrespective of other duties, that shall have responsibilities and authority that includes:
- a. Ensuring that processes are established, implemented and maintained,
 - b. Reporting and resolving quality assurance issues related to third parties on matters related to the quality assurance program.
 - c. This person shall have direct access to top management.
 - d. There shall be a management statement assigning the person designated.
 - e. There shall be a relevant job description of personnel assigned to the quality assurance program.
 - f. There shall be a policy statement on qualification and training of personnel.
5. The quality assurance manual must be provided to NAMI within thirty (30) business days of signing the license agreement.
6. The quality assurance manual must be filed by the Licensee in order for certifications to be released, certification labels ordered or inspections conducted by NAMI.
7. A separate manual must be provided for each manufacturing location involved or the variations between facilities clearly indicated and maintained on file at each location.

Section XI: Performance Compliance Guidelines

1. Performance Compliance Guidelines for Rigid PVC Profiles

	Property and Performance Characteristics	Reference Document	Required for Initial Submittal for Certification	Annual Testing (In-House or NAMI Approved Laboratory)	
Rigid PVC Profiles	Letter of Material Compliance (ASTM D4216 cell classification)	ASTM D4726 Sec. 5.1	Required		
	Applicable Performance Standard	AAMA 303	12 months min	Required	
	Dimensional Stability	AAMA 303 Sec. 4.2		Required	
	Impact Resistance	AAMA 303 Sec. 4.3		Required	
	Weathering	AAMA 303 Sec. 4.4		Required	
	Heat Resistance	AAMA 303 Sec. 4.5		Required	
	Weight Tolerance	AAMA 303 Sec. 4.7		Required	
Lead Content		Required			
Laminations on Base Profiles	Certified Substrate		Required	Required	
	Applicable Performance Standard	AAMA 303		Required	
	Dimensional Stability	AAMA 303 Sec. 4.2		Required	
	Impact Resistance	AAMA 303 Sec. 4.3		Required	
	Weathering	AAMA 303 Sec. 4.4		Required	
	Heat Resistance	AAMA 303 Sec. 4.5		Required	
	Weight Tolerance	AAMA 303 Sec. 4.7		Required	
Lead Content		Required			
Organic Coatings on Base Profiles	Applied Laminate Adhesion				
	Applicable Performance Standard	AAMA 303 & 307		Required	
	Bond Strength	AAMA 307 Sec. 5.4		Required	
	Boil Test	AAMA 307 Sec. 5.5			
	Certified Substrate			Required	Required
	Applicable Performance Standard	AAMA 303			Required
	Dimensional Stability	AAMA 303 Sec. 4.2			Required
Impact Resistance	AAMA 303 Sec. 4.3	Required			
Weathering	AAMA 303 Sec. 4.4	Required			
Heat Resistance	AAMA 303 Sec. 4.5	Required			
Weight Tolerance	AAMA 303 Sec. 4.7	Required			
Lead Content		Required			
Organic Coatings on Base Profiles	Coating Performance Standard	Applicator VCL Listed and AAMA 613, AAMA 614 or AAMA 615			
	Dry Film Thickness	AAMA 613/ 4/ 5 Sec. 4.3			Required

	Color Uniformity	AAMA 613/ 4/ 5 Sec 6.1		Required
	Gloss	AAMA 613/ 4/ 5 Sec 6.2		Required
	Dry Film Hardness	AAMA 613/ 4/ 5 Sec 6.3		Required
	Dry Adhesion	AAMA 613/ 4/ 5 Sec		Required
	Wet Adhesion	6.4.1.1		Required
	Direct Impact	AAMA 613/ 4/ 5 Sec		Required
	Detergent Resistance	6.4.1.2		Required
		AAMA 613/ 4/ 5 Sec 6.5		
		AAMA 613/ 4/ 5 Sec 6.7		

2. Performance Compliance Guidelines for Reinforced Thermoplastic Profiles

	Property and Performance Characteristics	Reference Document	Required for Initial Submittal for Certification	Annual Testing (In-House or NAMI Approved Laboratory)
Reinforced Thermoplastic Profiles	Letter of Material Compliance	AAMA 310 Sec. 4.2.1 and 4.2.2	Required	
	Applicable Performance Standard	AAMA 310		
	Weight Tolerance	AAMA 310 Sec. 5.1		Required
	Dimensional Stability	AAMA 310 Sec. 6.1.1		Required
	Heat Resistance	AAMA 310 Sec. 6.1.2		Required
	Weathering Lead Content	AAMA 310 Sec. 6.1.4 AAMA 310 Sec. 6.1.5	12 months min	Required Required
Laminations on Base Profiles	Certified Substrate		Required	Required
	Applicable Performance Standard	AAMA 310		
	Weight Tolerance	AAMA 310 Sec. 5.1		Required
	Dimensional Stability	AAMA 310 Sec. 6.1.1		Required
	Heat Resistance	AAMA 310 Sec. 6.1.2		Required
	Weathering	AAMA 310 Sec. 6.1.4		Required
	Lead Content	AAMA 310 Sec. 6.1.5		Required
Applied Laminate Adhesion				
Laminations on Base Profiles	Applicable Performance Standard	AAMA 307 & 310		
	Bond Strength	AAMA 307 Sec. 6.2.5.2		Required
	Boil Test	AAMA 307 Sec 6.2.5.3		Required
Organic Coatings on Base Profiles	Certified Substrate		Required	Required
	Applicable Performance Standard	AAMA 310		
	Weight Tolerance	AAMA 310 Sec. 5.1		Required
	Dimensional Stability	AAMA 310 Sec. 6.1.1		Required
	Heat Resistance Weathering	AAMA 303 Sec. 6.1.2 AAMA 303 Sec. 6.1.4		Required Required

	Lead Content	AAMA 303 Sec. 6.1.5		Required
	Coating Performance Standard	Applicator VCL Listed and AAMA 613, AAMA 614 or AAMA 615		
	Dry Film Thickness	AAMA 613/ 4/ 5 Sec 4.3		Required
	Color Uniformity	AAMA 613/ 4/ 5 Sec 6.1		Required
	Gloss	AAMA 613/ 4/ 5 Sec 6.2		Required
	Dry Film Hardness	AAMA 613/ 4/ 5 Sec 6.3		Required
	Dry Adhesion	AAMA 613/ 4/ 5 Sec 6.4.1.1		Required
	Wet Adhesion	AAMA 613/ 4/ 5 Sec 6.4.1.2		Required
	Direct Impact	AAMA 613/ 4/ 5 Sec 6.5		Required
	Detergent Resistance	AAMA 613/ 4/ 5 Sec 6.7		

3. Performance Compliance Guidelines for Acrylonitrile- Butadiene- Styrene (ABS) profiles Capped with ASA or ASA/PVC Blends

	Property and Performance Characteristics	Reference Document	Required for Initial Submittal for Certification	Annual Testing (In-House or NAMI Approved Laboratory)
ABS Profile Capped with ASA or ASA/PVC Blends	Letter of Material Compliance	AAMA 304 Sec. 4	Required	
	Applicable Performance Standard	AAMA 304		
	Dimensional Stability	AAMA 304 Sec. 3.1		Required
	Impact Resistance	AAMA 304 Sec. 3.1		Required
	Weight Tolerance	AAMA 304 Sec. 3.2		Required
	Heat Resistance	AAMA 304 Sec. 3.3		Required
	Weathering	AAMA 304 Sec. 3.1.1 & 5	12 months min	Required
	Lead Content	AAMA 304 Sec. 3.4		Required
Laminations on Base Profiles	Certified Substrate		Required	Required
	Applicable Performance Standard	AAMA 304		
	Dimensional Stability	AAMA 304 Sec. 3.1		Required
	Impact Resistance	AAMA 304 Sec. 3.1		Required
	Weight Tolerance	AAMA 304 Sec. 3.2		Required
	Heat Resistance	AAMA 304 Sec. 3.3		Required
	Weathering	AAMA 304 Sec. 3.1.1 & 5		Required
	Lead Content	AAMA 304 Sec. 3.4		Required
Other	Applied Laminate Adhesion			
	Applicable Performance Standard	AAMA 307 & 303		
	Bond Strength	AAMA 307 Sec. 5.4		Required
	Boil Test	AAMA 307 Sec 5.5		Required
Other	Certified Substrate		Required	Required

	Applicable Performance Standard	AAMA 310		
	Dimensional Stability	AAMA 304 Sec. 3.1		Required
	Impact Resistance	AAMA 304 Sec. 3.1		Required
	Weight Tolerance	AAMA 304 Sec. 3.2		Required
	Heat Resistance	AAMA 304 Sec. 3.3		Required
	Weathering	AAMA 304 Sec. 3.1.1 & 5		Required
	Lead Content	AAMA 304 Sec. 3.4		Required
	Coating Performance Standard	Applicator VCL Listed and AAMA 613, AAMA 614 or AAMA 615		
	Dry Film Thickness	AAMA 613/ 4/ 5 Sec 4.3		Required
	Color Uniformity	AAMA 613/ 4/ 5 Sec 6.1		Required
	Gloss	AAMA 613/ 4/ 5 Sec 6.2		Required
	Dry Film Hardness	AAMA 613/ 4/ 5 Sec 6.3		Required
	Dry Adhesion	AAMA 613/ 4/ 5 Sec 6.4.1.1		Required
	Wet Adhesion	AAMA 613/ 4/ 5 Sec 6.4.1.2		Required
	Direct Impact	AAMA 613/ 4/ 5 Sec 6.5		Required
	Detergent Resistance	AAMA 613/ 4/ 5 Sec 6.7		Required

4. Performance Compliance Guidelines for Cellular PVC Profiles

	Property and Performance Characteristics	Reference Document	Required for Initial Submittal for Certification	Annual Testing (In-House or NAMI Approved Laboratory)
Cellular PVC Profiles	Letter of Material Compliance (ASTM D4216 cell classification)	ASTM D4726 Sec. 3.2	Required	
	Applicable Performance Standard	AAMA 308		
	Dimensional Stability	AAMA 308 Sec. 4.2		Required
	Shore D Hardness	AAMA 308 Sec. 4.7		Required
	Weathering	AAMA 308 Sec. 4.3	12 months min	Required
	Heat Resistance	AAMA 308 Sec. 4.4		Required
	Weight Tolerance	AAMA 308 Sec. 4.5		Required
Laminations on Base Profiles	Lead Content	AAMA 308 Sec. 4.8		Required
	Certified Substrate		Required	Required
	Applicable Performance Standard	AAMA 308		
	Dimensional Stability	AAMA 308 Sec. 4.2		Required
	Shore D Hardness	AAMA 308 Sec. 4.7		Required
Weathering	AAMA 308 Sec. 4.3		Required	
Heat Resistance	AAMA 308 Sec. 4.4		Required	

	Weight Tolerance Lead Content	AAMA 308 Sec. 4.8		Required
	Applied Laminate Adhesion			
	Applicable Performance Standard	AAMA 307 & 308		
Organic Coatings on Base Profiles	Bond Strength Boil Test	AAMA 307 Sec. 5.4 AAMA 307 Sec 5.5		Required Required
	Certified Substrate		Required	Required
	Applicable Performance Standard	AAMA 310		
	Dimensional Stability	AAMA 308 Sec. 4.2		Required
	Shore D Hardness	AAMA 308 Sec. 4.7		Required
	Weathering	AAMA 308 Sec. 4.3		Required
	Heat Resistance	AAMA 308 Sec. 4.4		Required
	Weight Tolerance	AAMA 308 Sec. 4.5		Required
	Lead Content	AAMA 308 Sec. 4.8		Required
	Coating Performance Standard	Applicator VCL Listed and AAMA 613, AAMA 614 or AAMA 615		
Dry Film Thickness	AAMA 613/ 4/ 5 Sec 4.3		Required	
Color Uniformity	AAMA 613/ 4/ 5 Sec 6.1		Required	
Gloss	AAMA 613/ 4/ 5 Sec 6.2		Required	
Dry Film Hardness	AAMA 613/ 4/ 5 Sec 6.3		Required	
Dry Adhesion	AAMA 613/ 4/ 5 Sec		Required	
Wet Adhesion	6.4.1.1		Required	
Direct Impact	AAMA 613/ 4/ 5 Sec		Required	
Detergent Resistance	6.4.1.2		Required	
	AAMA 613/ 4/ 5 Sec 6.5			
	AAMA 613/ 4/ 5 Sec 6.7			

5. Performance Compliance Guidelines for Rigid Thermoplastic/Cellulosic Composite/Profiles

	Property and Performance Characteristics	Reference Document	Required for Initial Submittal for Certification	Annual Testing (In-House or NAMI Approved Laboratory)
Rigid Profiles	Letter of Material Compliance	AAMA 309 Sec. 4.1	Required	
	Applicable Performance Standard	AAMA 311		
	Dimensional Stability	AAMA 311 Sec. 5.1	12 months min	Required
	Weathering	AAMA 311 Sec. 5.1		Required
	Screw Withdraw	AAMA 311 Sec. 5.2		Required
	Thermal Cycling	AAMA 311 Sec. 5.3		Required
	Heat Resistance	AAMA 311 Sec. 5.4		Required
	AAMA 311 Sec. 5.5	Required		
	AAMA 311 Sec. 5.7	Required		

	Lead Content			
Laminations on Base Profiles	Certified Substrate		Required	Required
	Applicable Performance Standard	AAMA 311		
	Dimensional Stability	AAMA 311 Sec. 5.1		Required
	Weathering	AAMA 311 Sec. 5.1		Required
	Screw Withdraw	AAMA 311 Sec. 5.2		Required
	Thermal Cycling	AAMA 311 Sec. 5.3		Required
	Lead Content	AAMA 311 Sec. 5.7		Required
Applied Laminate Adhesion				
Applicable Performance Standard	AAMA 307 & 311			
Bond Strength	AAMA 307 Sec. 5.5.5.2		Required	
Boil Test	AAMA 307 Sec. 5.5.5.3		Required	
Organic Coatings on Base Profiles	Certified Substrate		Required	Required
	Applicable Performance Standard	AAMA 311		
	Dimensional Stability	AAMA 311 Sec. 5.1		Required
	Weathering	AAMA 311 Sec. 5.1		Required
	Screw Withdraw	AAMA 311 Sec. 5.2		Required
	Thermal Cycling	AAMA 311 Sec. 5.3		Required
	Heat Resistance	AAMA 311 Sec. 5.4		Required
	Lead Content	AAMA 311 Sec. 5.7		Required
	Coating Performance Standard	Applicator VCL Listed and AAMA 613, AAMA 614 or AAMA 615		
	Dry Film Thickness	AAMA 613/ 4/ 5 Sec 4.3		Required
	Color Uniformity	AAMA 613/ 4/ 5 Sec 6.1		Required
Gloss	AAMA 613/ 4/ 5 Sec 6.2		Required	
Dry Film Hardness	AAMA 613/ 4/ 5 Sec 6.3		Required	
Dry Adhesion	AAMA 613/ 4/ 5 Sec		Required	
Wet Adhesion	6.4.1.1		Required	
Direct Impact	AAMA 613/ 4/ 5 Sec		Required	
Detergent Resistance	6.4.1.2		Required	
	AAMA 613/ 4/ 5 Sec 6.5			
	AAMA 613/ 4/ 5 Sec 6.7			

APPENDIX K

MMPA/NAMI'S PLASTIC MOULDING & TRIM CERTIFICATION PROGRAM PROCEDURAL GUIDE

The MMPA/NAMI Plastic Moulding and Trim Certification Program is a Moulding and Millwork Producers Association (MMPA) sponsored certification program with the National Accreditation and Management Institute, Inc. (NAMI) acting as the program administrator and product certification validator. This document is a supplement and is intended to be used in conjunction with NAMI Certification Program Procedural Guidelines

Section I: General

1. The MMPA/NAMI Plastic Moulding and Trim Certification Program is based on the voluntary specifications that establish the minimum requirements for color consistency, dimensional tolerances, density, lead content, expansion/contraction properties, accelerated weathering, water absorption, optional flame spread and smoke developed index for, but not limited to, polyvinylchloride and polyurethane products used within the plastic moulding and trim industry (referred to as plastic moulding and trim within this standard).
2. Requirements of plastic moulding and trim may vary by product type and jurisdictional requirements. The MMPA/NAMI Plastic Moulding and Trim Certification Program require the plastic moulding and trim to be tested to MMPA 100-13.
3. Certifications issued by the MMPA/NAMI Administrator represents that the product(s) conform to the applicable standard(s) to which it was tested. Interested parties should visit www.namicertification.com to assure that the product(s) are active and currently listed. Products not visible on the NAMI website shall be considered inactive and/or not certified. Licensees should routinely visit the NAMI website to review the product listings to ensure that the information displayed is accurate and current.
4. The MMPA/NAMI Plastic Moulding and Trim Certification Program requirements are applicable only to plastic moulding and trim to which the MMPA/NAMI Administrator has authorized for certification. The manufacturer, itself, is not authorized for certification.
5. The Licensee shall be required to develop and implement a quality assurance program and a quality assurance manual in accordance with Appendix F of the NAMI Procedural Guide. The Licensee's quality assurance manual, all required documentation and records shall be maintained in accordance with the guidelines set forth in Appendix F of the NAMI Procedural Guide.
6. Licensees with multiple production facilities may produce certified plastic moulding and trim using an equivalent ingredient grades and current formulations of compound and composites, without having to individually undergo the initial testing. Each location shall attest in writing that the ingredient grades and current formulations are identical and have passed the complete requirements at the main location. However, the multiple production facilities shall be subjected to and shall comply with all program requirements, except as noted; in order to be listed as a production site for certified plastic moulding and trim.
7. Licensees with multiple production sites shall make available on demand all proof of purchases for compound and composite materials or formulations quantities and ingredients purchased that comprise the certified plastic moulding and trim being produced.

8. Licensees shall be able to use reprocessed material in certified plastic moulding and trim, provided that the reprocessed material consists of the same type of compounds and composites as the certified plastic moulding compound and composites and meets all of the same performance criteria.
9. Licensees shall not produce and/or finish plastic moulding and trim for fenestration applications that are to be sold in the United States and Canada with lead added. Lead shall not be added to any compound, composite, organic coating, or applied laminate used in certified or non-certified plastic moulding and trim intended for use or sale in the United States or Canada. The lead content shall be less than 0.02% by weight for the substrate or any surface treatment. Trace amounts of lead from external sources shall be less than 0.02% by weight for the substrate or any surface treatment.
10. Licensees shall reaffirm, on an annual basis that the certified plastic moulding and trim continue to meet the requirements of the applicable standard(s) and Appendix K of the NAMI Procedural Guide.
11. Licensees, who have previously tested products, may have their products “grandfathered” into the certification program upon meeting all requirements for program participation.

Section II: Test Standards

1. NAMI’s Plastic Moulding Certification Program provides for equitable administration, evaluations, decisions and enforcement through the use of the standards as defined in Section 2.1 of NAMI’s Certification Program Procedural Guidelines, including but not limited to:
 - a. MMPA 100-13- MMPA Standard/Specification for Plastic Moulding and Trim;
 - b. ASTM E84- Standard Test Method for Surface Burning Characteristics of Building Materials;
 - c. ASTM D570- Standard Test Method for Water Absorption of Plastics;
 - d. ASTM E631- Standard Terminology of Building Constructions;
 - e. ASTM D696- Standard Test Method for the Coefficient of Linear Thermal Expansion of Plastics Between -30°C and 30°C with a Vitreous Silica Dilatometer;
 - f. ASTM D792- Density and Specific Gravity (Relative Density) of Plastics Under Accelerated Service Conditions;
 - g. ASTM E1753- Standard Practice for use of Qualitative Chemical Spot Test Kits for Detection of Lead in Dry Paint Films;
 - h. ASTM D1761- Standard Test Methods for Mechanical Fasteners in Wood;
 - i. ASTM E2565- Standard Practice for Xenon-Arc Exposure of Plastics Intended for Outdoor Applications;
 - j. ASTM E631- Standard Terminology of Building Construction;
 - k. UL 723- Test for Surface Burning Characteristics of Building Materials;
 - l. Federal Standards- Code of Federal Regulations (CFR), 16 CFR, Section 1303, Federal Consumer Product Safety Commission Standard for Ban of Lead Containing Paint;
 - m. Appendix K of the NAMI Procedural Guide.
2. If any revisions are made to these referenced standards, MMPA/NAMI will review the effect of such revisions on the Licensee’s Products. MMPA/NAMI will notify each Licensee of the date such revisions shall become effective.

Section III: Test Samples

1. The Licensee shall select and forward appropriate test samples to an approved MMPA/NAMI Test Laboratory, in accordance with the applicable standards and the Test Laboratory requirements.
2. The Test Laboratory will test and report the findings of the submitted samples, in accordance with the reporting requirements of the applicable standards and ISO/IEC 17025. All costs associated with testing shall be the responsibility of the Licensee.

3. The Licensee shall forward or instruct the Test Laboratory to forward the reported results of the testing to MMPA/NAMI for review and consideration for certification.
4. The Test laboratory shall retain all test sample plastic moulding and trim, drawings and materials utilized in the testing process for a minimum period of five years.

Section IV: Notice of Product Certification

1. NAMI shall review all applicable test reports, test data and drawings for completeness and compliance to the applicable standards and program guidelines.
2. Upon successful completion of testing and a review of the test report, a Notice of Product Certification shall be issued. The Notice of Product Certification will contain a certification mark that will be unique for that product line. The certification mark will consist of:

MMPA/NAMI: Denotes National Accreditation & Management Institute's Plastic Moulding and Trim Certification Program.
XXXXXX.XX: The five digits will be a number that is the identification code that NAMI has designated for the Licensee's product and manufacturing location.

3. Certification is granted based off of the initial test date and is contingent on the requirement that the compound, or composite used in the certified plastic moulding(s) or the manufacturing process used to make the certified plastic moulding and trim(s) has not deviated from the criteria as specified in the submitted test report.
4. Certification shall be ongoing and is contingent on the requirement that the compound or composite used in the certified plastic moulding(s) or the manufacturing process used to make the certified plastic moulding(s) has not deviated from the criteria as specified in the submitted test report.
5. Certification shall be maintained as long as the Licensee demonstrates continued compliance with all program requirements.
6. Certification shall be maintained in accordance with the standard(s) to which the certified plastic moulding was certified to. Any change in requirements, applicability or if the standard is rescinded will require re-testing.
7. Certification shall expire under the following conditions:
 - a. Voluntary written withdrawal of the plastic moulding and trim by the Licensee;
 - b. Failure to comply with the program requirements, as determined by the NAMI Administrator;
 - c. Repeated in-plant test failure;
 - d. Repeated laboratory failure;
 - e. Repeated lead content failure.

Section V: Application of Certification Mark

1. Upon notification of product certification, the Licensee may identify plastic moulding and trim fabricated within that plastic moulding product line with the authorized MMPA Sponsored Mark and the NAMI Certification Mark.
2. The NAMI Certification Mark is a registered trademark that is listed with the U.S. Patent trademark Office and is coded for identification of the Licensee and the location in which certified plastic moulding and trim are authorized to be produced.

3. Label rights bearing the MMPA Sponsored Mark and the NAMI Certification Mark may only be obtained from the Administrator.
4. Upon suspension or revocation of product certification authorization, the Licensee shall immediately cease using the MMPA Sponsored Mark and the NAMI Certification mark.
5. The MMPA Sponsored Mark and the NAMI Certification Mark serves to identify plastic moulding and trim that conform to the procedures established by the applicable standards and the NAMI Procedural Guide.
6. The Licensee, by affixing the certification mark or label, is stipulating that the product is representative of the test specimen that was evaluated and certified.
7. The certification label or the certification mark shall only be applied to products or product packaging for products authorized for MMPA/NAMI Certification.
8. Package marking or labels bearing the MMPA Sponsored Mark and the NAMI Certification Mark shall bear the words, “Manufacturer stipulates compliance to” and the applicable standard to which the product was tested to. The label shall also provide traceability in displaying the unique certification mark that was issued by NAMI for the product line that the certification mark was issued to.
9. Format and the size of the package marking or labels bearing the MMPA Sponsored Mark and the NAMI Certification Mark shall be at the discretion of the NAMI Administrator.
10. Labels bearing the MMPA Sponsored Mark and the NAMI Certification Mark are permitted to be affixed to the container or carton containing the certified plastic moulding and trim. Licensees have the option to utilize different methods for conformance marking in accordance with this section. However, the format, content and layout of methods utilizing these marks must be approved in writing by the NAMI Administrator.
11. Package marking or labels bearing the MMPA Sponsored Mark and the NAMI Certification Mark shall only be permitted to be affixed at the authorized plastic moulding production facility.
12. Package marking or labels bearing the MMPA Sponsored Mark and the NAMI Certification Mark for products manufactured in or outside the United States and Canada, the following shall apply:
 - a. Package marking or labels bearing the approved marks shall bear the words, “Manufacturer stipulates compliance to”;
 - b. Package marking or labels bearing the approved marks must state the country/countries of origin;
 - c. Package marking or labels bearing the approved mark must bear the identification code that is unique to the Licensee and that was issued to the Licensee by the NAMI Administrator;
 - d. Package marking or labels bearing the approved marks shall be in English and legible to the unaided eye;
 - e. Package marking or labels bearing the approved marks shall be applied in such a manner as to remain visible at the point of sale, delivery and until the assembled fenestration product is installed.
13. The Licensee shall designate an individual responsible for managing all aspects of labeling, including the safeguard and handling of the approved marks within all aspects of the process.

Section VI: Conditional Approval

1. The NAMI Administrator may grant conditional approval for plastic moulding and trim submitted for certification consideration under the following conditions:
 - a. If the plastic moulding is made of a “known” compound, meaning that the plastic moulding is made of the same compound combination as previously used in a different plastic moulding and trim that has already passed the requirements of the applicable standards.
 - b. If the Licensee can provide evidence, such as the material test data indicating that the compound or composite complies with the corresponding plastic moulding and trim specifications as specified in Appendix K of the NAMI Procedural Guide.
 - c. If the Licensee has conducted the above test(s) either at an approved testing laboratory or conducted the testing in-house.
 - d. The NAMI Administrator reserves the right and is responsible for decisions relating to granting, maintaining, extending, suspending, and withdrawing authorization for certification, within the parameters as specified in this appendix and the NAMI Procedural Guide.
2. The NAMI Administrator may grant conditional approval for plastic moulding additions or modifications submitted for certification consideration under the following conditions:
 - a. If the plastic moulding additions or modification is made of a “known” compound, meaning that the plastic moulding is made of the same compound as was used in a different plastic moulding that has already passed the requirements of the applicable standards.
 - b. If the Licensee can provide evidence, such as the material test data indicating that the compound or composite additions or modification complies with the corresponding plastic moulding specifications as specified in Appendix K of the NAMI Procedural Guide.
3. If the Licensee has conducted the above test(s) either at a NAMI approved testing laboratory or has conducted the testing in-house.
4. The NAMI Administrator reserves the right and is responsible for decisions relating to granting, maintaining, extending, suspending, and withdrawing authorization for certification, within the parameters as specified in this appendix and the NAMI Procedural Guide.

Section VII: Laboratory Test Failure

1. If any specimen(s) or group of specimens sent for testing during the conditional approval period fails for any property other than lead content, the Licensee shall select a new specimen or a new group of specimens and forward to a NAMI approved testing laboratory within 60 days, unless special circumstances exist. The number of specimens collected shall be the same number and type as the previous sample size. The specimens shall be permanently marked.
2. If any re-tested sample fails to meet any of the test requirements, the NAMI Administrator shall immediately suspend the certification authorization for the specific plastic moulding, until successful retesting has been completed and the results of which have been reviewed by NAMI.
3. If the results from the re-tested sample(s) or sample group successfully pass the requirements of the applicable standards, the result of the original test failure and the re-testing results shall be maintained for a minimum period of 5 years.

4. The Licensee shall have the right to voluntarily withdraw any plastic moulding from the NAMI Plastic Moulding Certification Program.
5. All costs for re-testing shall be borne by the Licensee.

Section VIII: Re-Qualification Testing

1. If a NAMI certified plastic moulding has been disqualified as a result of any physical test failure or unauthorized change or modification, with the exception of lead content test failure, the Licensee may request in writing to have the plastic moulding re-qualified, if the following criteria have been met:
 - a. The process for requalification shall be the same as stipulated in Section III, Appendix K of the NAMI Procedural Guide. All sampling selection and testing processes shall be repeated.
2. Re-qualification shall not be permitted until all outstanding invoices for cost(s) incurred for program participation have been reconciled.
3. Re-Qualification shall not be permitted until all required qualification testing has been conducted and the Licensee has shown compliance with all of the requirements, as stated in Appendix K of the NAMI Procedural Guide.

Section IX: In-Plant Inspections and QA Documentation Reviews

1. Inspections will be performed in accordance with the MMPA/NAMI Certification Program's Guidelines.
2. Two inspections will be conducted annually. One of the inspections will consist of a physical inspection at the production facilities of the Licensee. A second inspection will be conducted through electronic surveillance (format agreed upon by NAMI and the licensee) to review the licensee's on-going quality assurance program.
3. The physical inspection and inspection report shall consist of, but not limited to the accumulation of the following information and verification checks:
 - a. Manufacturer's name, location and assigned code number;
 - b. Date of inspection;
 - c. Name of contact person(s);
 - d. Plastic moulding(s) inspected;
 - e. Required in-house test inspections to be performed and their frequency;
 - f. Verification of material compliance for all certified plastic moulding compounds;
 - g. Verification of material compliance for all third party suppliers;
 - h. Verification of lead content data and documentation;
 - i. Quality assurance practices and documentation;
 - j. Quality assurance practices pertaining to the manufacturing process;
 - k. Quality assurance practices pertaining to addressing non-compliance issues in relation to the plastic moulding specification requirements;
 - l. Quality assurance practices pertaining to the sampling of plastic moulding and trim for the required testing requirements of the applicable standard;
 - m. Any additional information.
4. During each inspection, the NAMI Inspector shall conduct a verification of lead content on a minimum of 10 sample plastic moulding and trim, by conducting a chemical spot test in accordance

with the procedures in the ASTM E1753, Standard Practice for Use of Qualitative Chemical Spot Test Kits for the Detection of Lead in Dry Paint Films.

5. If a specimen(s) or specimen group fails to meet the lead content requirements, during the in-plant inspection to detect the presence of lead, the Licensee shall immediately select specimens for testing using the atomic absorption test in accordance with the ASTM E1613, in order to confirm the presence of lead content in excess of 0.02% by weight. The Licensee shall select a new specimen or a new group of specimens having the same compounds and/or composites and forward to a NAMI approved testing laboratory within 60 days, unless special circumstances exist. The specimens shall be permanently marked.
 - a. If the lead content failure is confirmed by atomic absorption testing, a special inspection shall be conducted by NAMI. The Licensee's entire certified and uncertified plastic moulding and trim intended for sale in the United States and Canada shall be subject to inspection. Within 7 days of receipt of the chemical spot test results, NAMI shall notify the Licensee in writing of the confirmation of lead by atomic absorption testing, the intent to conduct a special inspection, and the number of certified plastic moulding and trim to be inspected.
 - b. The NAMI Inspector shall conduct an inspection of the Licensee's production facility and shall select specimens for testing at a NAMI approved laboratory.
 - c. If the test results of the NAMI special inspection confirm the presence of lead in excess of 0.02% by weight, all plastic moulding and trim of the specified compound or composite of the failed plastic moulding shall their certification rescinded. NAMI shall notify all parties concerned, who use the Licensee's plastic moulding and trim, that these plastic moulding and trim are no longer certified due to lead content and that the plastic moulding and trim may not be used in any MMPA/NAMI certified product.
 - d. If any plastic moulding that has had the MMPA/NAMI certification rescinded successfully passes retesting and has certification reinstated, fails any lead content in future inspections, this failure shall be treated as a second failure and shall immediately be subjected to the conditions as stated in Appendix K of the NAMI Procedural Guide.
 - e. The cost(s) associated with the special inspection shall be borne by the Licensee.
6. During each inspection, the NAMI Inspector shall review the Licensee's quality assurance program and documentation to determine compliance to Appendix F of the NAMI Procedural Guide.
7. Licensees shall reaffirm at the time of inspection that the Licensee complies with the requirements of this section, verifying that no lead has been added to the plastic moulding and trim that are intended to be used or sold in the United States or Canada.
8. Licensees shall reaffirm at the time of inspection that any material produced by a third-party supplier complies with the requirements of this section, verifying that no lead has been added to the plastic moulding and trim that are intended to be used or sold in the United States or Canada.
9. Licensees shall reaffirm and produce evidence at the time of inspection that the formulation and equivalent ingredient grades used to produce certified plastic moulding and trim have not changed and that the performance of such has not degraded.
10. The electronic surveillance shall consist of, but not limited to the accumulation of the following information and verification checks:
 - a. Manufacturer's name, location and assigned code number;
 - b. Date of inspection;

- c. Name of contact person(s);
 - d. Required in-house test inspections to be performed and their frequency;
 - e. Verification of material compliance for all certified plastic moulding and trim;
 - f. Verification of lead content data and documentation;
 - g. Quality assurance practices and documentation;
 - h. Quality assurance practices pertaining to the manufacturing process;
 - i. Quality assurance practices pertaining to addressing non-compliance issues in relation to the plastic moulding specification requirements;
 - j. Quality assurance practices pertaining to the sampling of plastic moulding and trim for the required testing requirements of the applicable standard;
 - k. Any additional information.
11. Licensees shall be required to forward all requested documentation to NAMI prior to the start of the review process or have available in electronic format with the ability to send to NAMI upon request. NAMI will review all received documentation for compliance to Appendix K of the NAMI Procedural Guide. NAMI may elect to schedule a meeting, via teleconferencing or other electronic methods, with the Licensee's management personnel to discuss any questions or concerns arising from the review. The Licensee shall make available the appropriate personnel at the time agreed upon by NAMI and the Licensee.
 12. Licensees shall be required to follow the guidelines set forth in Section 2.11 of the NAMI Procedural Guide in addressing non-compliance issues and corrective/preventive actions.
 13. Licensees shall be required to follow the in-process requirements as set forth in the applicable standards to which the products are certified to.

Section X: In-Plant Quality Assurance Requirements

1. The Licensee shall maintain a documented quality assurance program in compliance with NAMI's requirements.
2. Each manufacturing location shall have a Quality Assurance Manual. The Quality Assurance Manual shall clearly identify the manufacturer's name, street address, phone-numbers, email address and legal status and contact information for the member of the organization identified.
3. Each Licensee is required to maintain a quality assurance manual which outlines the quality assurance procedures. The quality assurance manual shall contain at a minimum procedures outlining the following information:
 - a. Manufacturer's name, street address, phone number, email address and legal status.
 - b. Contact information for the member responsible for oversight of the Quality Assurance Program.
 - c. Locations and contact information for multiple locations (if applicable).
 - d. Revision date.
 - e. Procedures for reviewing and updating the Quality Assurance Manual for suitability, accuracy and effectiveness, at a minimum of once every 12 months.
 - f. Procedures for document control.
 - g. Procedures or a process to ensure only current documentation is used in processes directly affecting the quality of the product.
 - h. A production flowchart or a description of the process in which the product is manufactured.
 - i. Procedures for product identification, detailing the description of the product, tolerances, specifications and schematics.
 - j. Procedures outlining the quality checks that are conducted to ensure conformity or compliance to the product certification or requirements as specified in the appropriate standard, as specified in Appendix K of the NAMI Procedural Guide.

- k. Procedures for labeling, labeling control and application of the label.
 - l. Procedures detailing the ability to trace a product and its materials to the point of inception.
 - m. Procedures for the handling, identification, packaging and protection of certified products and/or products approved for certification.
 - n. Procedures detailing the actions taken to correct manufacturing defects and/or processes.
 - o. Procedures for documenting and correcting complaints from the general public, building officials or product control inspectors (IE: NAMI). Documentation shall contain any actions taken to prevent further occurrence.
 - p. Procedures for verification/inspection of incoming materials and their ability to conform to the requirements established by the product certification or the applicable standard's requirements.
 - q. Procedures for the handling, segregation and disposition of non-conforming or damaged incoming or in-process material.
 - r. Procedures for the verification of critical measurement devices (i.e., Tape Measure and/or Calipers), including the time intervals, procedures for documenting and the traceable standards used.
 - s. Procedures for identification, storage, protection, retrieval, retention time and disposition of records relating to production and quality assurance.
4. The Quality Assurance Manual shall define and indicate a member of the organization, irrespective of other duties, that shall have responsibilities and authority that includes:
- a. Ensuring that processes are established, implemented and maintained,
 - b. Reporting and resolving quality assurance issues related to third parties on matters related to the quality assurance program.
 - c. This person shall have direct access to top management.
 - d. There shall be a management statement assigning the person designated.
 - e. There shall be a relevant job description of personnel assigned to the quality assurance program.
 - f. There shall be a policy statement on qualification and training of personnel.
5. The quality assurance manual must be provided to NAMI within thirty (30) business days of signing the license agreement.
6. The quality assurance manual must be filed by the Licensee in order for certifications to be released, certification labels ordered or inspections conducted by NAMI.
7. A separate manual must be provided for each manufacturing location involved or the variations between facilities clearly indicated and maintained on file at each location.

Section XI: Performance Compliance Guidelines

1. Performance Compliance Guidelines for Plastic Moulding and trim
- a. Plastic Moulding and trim compliance shall be based on the performance criteria as established by MMPA 100-13- MMPA Standard/Specification for Plastic Moulding and Trim.
 - b. Compliance of certified plastic moulding and trim shall be limited to the revision year of the standard to which the original certification is based on.
 - c. Installation shall be in accordance with manufacturer's installation instructions.
 - d. All finishing shall be in accordance with manufacturer's instructions and recommendations.

- e. The level of performance shall be established, based off of the achieved test results and shall be indicated using the following criteria:

	Polyvinylchloride	Polyurethane
Density (Minimum)	30 pcf	10 pcf
Lead Content (by weight)	<0.02%	<0.02%
Lead Content (external sources)	<0.02%	<0.02%
Lead Content (applied paint)	16 CFR, Section 1303	16 CFR, Section 1303
Accelerated Weathering (Interior) ^{See Note 1}	28 Cycles/dE ≤ 3.0	28 Cycles/dE ≤ 3.0
Accelerated Weathering (Exterior) ^{See Note 1}	56 Cycles/dE ≤ 3.0	56 Cycles/dE ≤ 3.0
Expansion/Contraction	< 0.005" per 10' / °F	< 0.007" per 10' / °F
Water Absorption (by weight)	≤ 2% after 24 hours	≤ 11% after 24 hours
Flame Spread ^{See Note 2} (Optional)	(ASTM E84 only) A: 0-25 B: 26-75 C: 76-200	(UL 723 only) ≤400
Smoke Developed Index ^{See Note 3} (Optional)	(ASTM E84 only) ≤1500 Level	(UL 723 only) ≤1200 Level

Note 1: Accelerated weathering using Xenon-Arc Exposure in accordance with ASTM E2565.

Note 2: The Flame Spread Index (FSI) shall be rounded to the nearest multiple of five.

Note 3: The Smoke Developed Index (SDI) shall be as follows:

1. If the SDI is 200 or lower, round the average to the nearest multiple of five points. The rounded average is considered the SDI.
2. If the average is over 200, round the average to the nearest multiple of 50 points and the rounded average is the SDI.

APPENDIX L

NAMI'S ENERGY PERFORMANCE CERTIFICATION PROGRAM

This document is a supplement and is intended to be used in conjunction with NAMI's Certification Program Procedural Guidelines and the industry standards listed in Section II of Appendix M of the NAMI Procedural Guide.

Section I: General

1. This appendix establishes the procedures and specifications used for the decision of certification for the energy performance of fenestration products, using both measurement and calculation methods for establishing the following fenestration system properties for both residential and commercial applications:
 - a. Overall coefficient of heat transfer (U-Factor);
 - b. Solar heat gain coefficient (SHGC);
 - c. Visible transmittance (VT);
 - d. Air leakage (AL);
 - e. Energy Rating (ER).
2. Certification of a fenestration systems under this appendix constitutes acceptance of its energy performance characteristics for specific indoor and outdoor conditions and will vary slightly under actual conditions. The values obtained by the methods specified in this appendix are considered to provide an acceptable for comparing performance in use.
3. Certifications issued by the NAMI Administrator represents that the product(s) conform to the applicable standard(s) to which the product(s) were tested. Interested parties should visit www.namicertification.com to assure that the product(s) are active and currently listed. Products not visible on the NAMI website shall be considered inactive and/or not certified. Licensees should routinely visit the NAMI website to review the product listings to ensure that the information displayed is accurate and current.
4. The NAMI Energy Performance Certification Program is applicable to only fenestration products that the NAMI Administrator has authorized for certification. The individual fenestration products authorized for certification are limited to the following product types:
 - a. Vertically sliding windows;
 - b. Horizontal sliding windows;
 - c. Dual-action windows;
 - d. Fixed and operable casement windows;
 - e. Projected awning and hopper windows;
 - f. Fixed windows;
 - g. Sidelites;
 - h. Transom windows;
 - i. Sliding doors;
 - j. Side-hinged doors;
 - k. Dual-action side-hinged doors;
 - l. Architectural terrace doors;
 - m. Unit skylights and roof windows;
 - n. Greenhouse and garden windows;
 - o. Tubular daylighting devices;

- p. Curtain walls
 - q. Garage doors (vehicular access and rolling);
 - r. Any fenestration systems covered by the AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for Windows, Doors and Skylights.
5. This appendix specifies a method for determining an energy performance rating for vertical fenestration systems, under heating conditions, for use in low-rise residential applications. The Energy Rating (ER) includes factors for:
 - a. Solar heat gain;
 - b. Heat loss by conduction, radiation, and convection;
 - c. Heat loss by air leakage.
 6. The Energy Rating (ER) should not be used to rate any sloped glazing, both residential or commercial or fenestration products that will be installed in commercial, industrial, or high-rise residential buildings.
 7. This appendix does not apply to fixed glazing cast into precast concrete panels, revolving doors, doors intended for indoor use and storm doors.
 8. This appendix does not address the retention of thermal and optical properties or airtightness of fenestration systems over time and under conditions of use.
 9. Certifications issued by the NAMI Administrator represents that the product(s) conform to the applicable standard(s) to which the product(s) were tested. Interested parties should visit www.namicertification.com to assure that the product(s) are active and currently listed. Products not visible on the NAMI website shall be considered inactive and/or not certified. Licensees should routinely visit the NAMI website to review the product listings to ensure that the information displayed is accurate and current.

Section II: Test Standards

1. NAMI's Energy Performance Certification Program provides for equitable administration, evaluations, decisions, and enforcement using the standards as defined in Section 2.1 of NAMI's Certification Program Procedural Guidelines, including but not limited to:
 - a. CSA A440.2 - Fenestration Energy Performance;
 - b. AAMA/WDMA/CSA 101/I.S.2/A440 - North American Fenestration Standard/Specification for Windows, Doors and Skylights;
 - c. ANSI/NFRC 100 - Procedure for Determining Fenestration Product U-Factors;
 - d. ANSI/NFRC 102 - Measuring the Steady-State Thermal Transmittance of Fenestration Systems;
 - e. NFRC 200 – Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence;
 - f. NFRC 201 – Procedure for Interim Standard Test Method for Measuring the Solar Heat Gain Coefficient of Fenestration Systems Using Calorimetry Hot Box Methods;
 - g. NFRC 202 – Procedure for Determining Translucent Fenestration Product Visual Transmittance at Normal Incidence;
 - h. THERM 7/WINDOW 7 NFRC Simulation Manual
2. If any revisions are made to these referenced standards, NAMI will review the effect of such revisions on the Licensee's Products. NAMI will notify each Licensee of the date such revisions shall become effective.

Section III: Specimen Selection

1. The frame dimensions of test specimens shall be in accordance with Table 1 of the CSA A440.2: Fenestration Energy Performance.
2. If energy performance characteristics are calculated, the size used for the determination of performance shall be in accordance with Table 1 of the CSA A440.2: Fenestration Energy Performance.
3. Fenestration systems, except unit skylights, roof windows and tubular daylighting devices, shall be evaluated in the vertical position. Unit skylights and roof windows shall be evaluated at a slope of 20 degrees from the horizontal. Tubular daylighting devices shall be evaluated with the tube in the vertical orientation. The “ER” should not be used to rate commercial or residential sloped glazing.
4. Decorative glazing and products in which the view of the glazing is distorted (e.g., sandblasted, frosted, stained, or patterned glass) shall be treated as clear glass.
5. The properties for curtain walls shall be determined separately for the vision panel and the spandrel panel, using the reference size in Table 1 of the CSA A440.2: Fenestration Energy Performance.
6. When the air leakage rate is used in the calculation of the ER in accordance with Section 8.2 of the CSA A440.2: Fenestration Energy Performance, the frame dimensions of the test specimens shall be in accordance with the AAMA/WDMA/CSA 101/I.S.2/A440 gateway size requirements.
7. Fenestration systems with removable shading devices shall be tested with the shading devices removed.
8. Fenestration systems with adjustable integral shading devices shall be tested with the device adjusted to the position that allows:
 - a. The maximum viewing area to the exterior in a direction normal to the glazing; or
 - b. The minimum viewing area to the exterior in a direction normal to the glazing.

Section IV: Simulation Report or Test Report Review

1. The fenestration system U-Factor (U_w) by measurement shall be determined in accordance with the NFRC 102.
2. The fenestration system U-Factor (U_w) by simulation shall be determined in accordance with the ANSI/NFRC 100, except that validation of the simulations as specified in the ANSI/NFRC 100 is not required.
3. The NFRC Simulation Manual and the NFRC Technical Interpretation Manual shall be used when performing computer simulations. In the event of a conflict with the ANSI/NFRC 100 or the NFRC Simulation Manual or the NFRC Technical Interpretation Manual, the CSA A440.2: Fenestration Energy Performance standard shall take precedence. In the event of a conflict between the ANSI/NFRC 100 or the NFRC Simulation Manual or the NFRC Technical Interpretation Manual, the ANSI/NFRC 100 shall take precedence.
4. Fenestration system SHGC shall be determined in accordance with Clause 6.2 and 6.3 of the CSA A440.2: Fenestration Energy Performance.

5. If the SHGC is to be determined by measurement, the CANMET; Determination of Fenestration Solar Heat Gain Coefficient Using Simulated Solar Irradiance, Part 1 or the NFRC 201 shall be used.
6. Fenestration system VT shall be determined in accordance with Clause 6.4 or 6.5 of the CSA A440.2: Fenestration Energy Performance.
7. For dynamic fenestration systems, the U-Factor, SHGC and VT shall be determined in accordance with the ANSI/NFRC 100 and the ANSI/NFRC 200.
8. The air leakage rate of the test specimen (L_{75}), expressed in $L/s \cdot m^2$, shall be determined by measurement at an air pressure difference across the fenestration system of 75 Pa, in accordance with the AAMA/WDMA/CSA 101/I.S.2/A440. (L_{75}) shall be the average of the infiltration and exfiltration measurements.
9. The Energy Rating (ER) shall be determined using the calculation methods as described in Sections 8.2 and 8.3 of the CSA A440.2: Fenestration Energy Performance standard.
10. The ER shall be determined for fenestration systems intended to be installed in a vertical orientation in low-rise residential buildings.
11. For fenestration systems with adjustable integral shading devices, the ER shall be determined with the device adjusted to the position that allows the maximum viewing area to the exterior in a direction normal to the glass.
12. The ER shall not be used to rate sloped glazing (residential or commercial), fenestration products that will be installed in commercial, industrial, or high-rise residential buildings.
13. Laboratories conducting tests or simulations in accordance with the CSA A440.2: Fenestration Energy Performance standard must provide documented evidence of accreditation to the ISO/IEC 17025, with the CSA A440.2: Fenestration Energy Performance standard listed on their scope of accreditation.
14. The test report shall contain the following information:
 - a. The name and address of the laboratory carrying out the tests and/or simulations;
 - b. The name and address of the manufacturer;
 - c. The source of the test specimens;
 - d. The source of the physical property data;
 - e. The dates of the physical tests;
 - f. The date of the report;
 - g. A comprehensive description of the fenestration system being evaluated, including elevations and cross-sectional drawings, showing locations and dimensions of all components affecting the property being determined.
 - h. Identification and description of the test apparatus (if applicable);
 - i. Details of the installation of the specimen in the test apparatus, including a vertical cross-section showing the interface between the fenestration system specimen and the surrounding wall construction as well as the direction of heat flow (if applicable);
 - j. Details of the steps taken to minimize air leakage;
 - k. The average values during the test period of the air temperatures on both sides of the specimen at its mid-height;
 - l. The average values of the indoor and outdoor surface conductance during the test period and a description of the method used for their determination;
 - m. The total fenestration system area of the test specimen;
 - n. The U-Factor of the fenestration system specimen under test conditions and the derived value of the thermal conductance of the fenestration system specimen;

- o. The U-Factor of the total fenestration system product with reference surface conductance;
- p. The details of any extrapolation of the U-Factor of the test specimen to that of the reference size in Table 1 of the CSA A440.2: Fenestration Energy Performance standard;
- q. The values of and the method used to determine the deflection of the interior and exterior surfaces of the glass in any insulating glass;
- r. An estimate of the uncertainty of results and the basis of the estimate;
- s. The indoor and outdoor boundary conditions of the test apparatus;
- t. The area of the glazing bounded by the sightlines, and the total fenestration system area for the test specimen;
- u. The test specimen's overall SHGC of the total fenestration system product with referencing the indoor and outdoor surface conductance;
- v. The details of any extrapolation of the SHGC of the test specimen to that of the reference size in Table 1 of the CSA A440.2: Fenestration Energy Performance standard;
- w. The air leakage rate of the test specimen;
- x. The thickness of glass layers and the gaps between the layers;
- y. The thermal conductance of the glazing layers;
- z. The long-wave emittance and reflective of indoor- and outdoor-facing surfaces of the glazing layers;
- aa. Thin-film coating properties;
- ab. Normal solar transmittance of glazing and normal solar reflectance of indoor- and outdoor-facing surfaces of the glazing layers;
- ac. Emittances of the indoor- and outdoor-facing surfaces;
- ad. The computed center-of-glass U-Factor and SHGC with reference indoor and outdoor surface conductance;
- ae. All ISO 15099 compliant computer program data files or the values of all data required for the computation of U-Factors for frame, edge-of-glass, divider, and divider-edge areas, including the thermal conductivity of all materials, the effective conductivity assigned to cavities, long-wave emittance of surfaces, cross-sections employed in computing each component U-Factor and relevant dimensions, the computer output used to simulate all fenestration system frame cross-sections and the computed values of each component U-Factor with reference indoor and outdoor surface conductance;
- af. The computed U-Factor for the total fenestration system product and for the component values;
- ag. The computed SHGC for the total fenestration system product;
- ah. The values of all variables in the ER equation along with the calculated ER, reported in two decimal places, and the average shall be reported in one decimal place. The computed ER shall be rounded in accordance with CSA Z234.1 and expressed as an integer;
- ai. Dynamic products shall be reported in accordance with the ANSI/NFRC 100 and the ANSI/NFRC 200 in both the fully open and fully closed position;
- aj. The VT for the center-of-glass area and the total fenestration system product.

Section V: Notice of Product Certification

1. Upon successful completion of the review process, and in accordance with NAMI Procedural Guide and the NAMI Quality Assurance Manual, the Administrator will issue a certification for the product.
2. The certification shall contain the following:
 - a. A unique NAMI Certification number;
 - b. Product model name;
 - c. Operator type;
 - d. Certification date;
 - e. Expiration date;
 - f. Reference standard;
 - g. Test report or simulation report number;
 - h. Air leakage test report number;

- h. Name of laboratory conducting the test(s) or simulation(s);
 - i. A unique product line glazing option number for all glazing options;
 - j. The glazing composition for each product line glazing option;
 - k. The U-Factor, SHGC, ER and VT for each product line glazing option;
 - l. Air leakage rate;
 - m. Revision date (if applicable);
 - n. The NAMI Certification Mark;
 - o. Signature of the NAMI Administrator.
3. The initial certification shall be valid for a period of four (4) years from the date of test or simulation completion.
 4. Certified products may be granted an extension for up to ten (10) years from the date of expiration or the date of request, based on an attestation from the product manufacturer that the product and all components used in the product have not changed. Any changes to the product must be evaluated and approved by the NAMI Administrator in writing prior to making the change. The NAMI Waiver of Retest procedures, outlined in the NAMI Quality Assurance Manual and NAMI Procedural Guide shall be used.
 5. Any unauthorized changes to the certified product will void the NAMI Certification.
 6. All processes and procedures relating to the issuance, maintenance and governance of the certification shall be in accordance with the NAMI Procedural Guide and the NAMI Quality Assurance Manual.

Section VII: In-Plant Quality Assurance Requirements

1. The Licensee shall maintain a documented quality assurance program in compliance with NAMI's requirements.
2. Each manufacturing location shall have a quality assurance manual. The quality assurance manual shall clearly identify the manufacturer's name, street address, phone-numbers, email address and legal status and contact information for the member of the organization identified.
3. Each Licensee is required to maintain a quality assurance manual which outlines the quality assurance procedures. The quality assurance manual shall contain at a minimum the procedures outlining the following information:
 - a. Manufacturer's name, street address, phone number, email address and legal status.
 - b. Contact information for the member responsible for oversight of the Quality Assurance Program.
 - c. Locations and contact information for multiple locations (if applicable).
 - d. Revision date.
 - e. Procedures for reviewing and updating the quality assurance manual for suitability, accuracy, and effectiveness, at a minimum of once every 12 months.
 - f. Procedures for document control.
 - g. Procedures or a process to ensure only current documentation is used in processes directly affecting the quality of the product.
 - h. A production flowchart or a description of the process in which the product is manufactured.
 - i. Procedures for product identification, detailing the description of the product, tolerances, specifications, and schematics.
 - j. Procedures outlining the quality checks that are conducted to ensure conformity or compliance to the product certification or requirements as specified in the appropriate standard, as specified in Section XI, Appendix M of the NAMI Procedural Guide.
 - k. Procedures for labeling, labeling control, and application of the certification mark.

- l. Procedures detailing the ability to trace a product and its materials to the point of inception.
 - m. Procedures for the handling, identification, packaging, and protection of certified products and/or products approved for certification.
 - n. Procedures detailing the actions taken to correct manufacturing defects and/or processes.
 - o. Procedures for documenting and correcting complaints from the general public, building officials or product control inspectors (IE: NAMI). Documentation shall contain any actions taken to prevent further occurrence.
 - p. Procedures for verification/inspection of incoming materials and their ability to conform to the requirements established by the product certification or the applicable standard's requirements.
 - q. Procedures for the handling, segregation, and disposition of non-conforming or damaged incoming or in-process material.
 - r. Procedures for the verification of critical measurement devices (IE: Tape Measure and/or Calipers), including the time intervals, procedures for documenting and the traceable standards used.
 - s. Procedures for identification, storage, protection, retrieval, retention time and disposition of records relating to production and quality assurance.
4. The quality assurance manual shall define and indicate a member of the organization, irrespective of other duties, that shall have responsibilities and authority that includes:
 - a. Ensuring that processes are established, implemented, and maintained,
 - b. Reporting and resolving quality assurance issues related to third parties on matters related to the quality assurance program.
 - c. This person shall have direct access to top management.
 - d. There shall be a management statement assigning the person designated.
 - e. There shall be a relevant job description of personnel assigned to the quality assurance program.
 - f. There shall be a policy statement on qualification and training of personnel.
 5. The quality assurance manual must be provided to NAMI within thirty (30) business days of signing the license agreement.
 6. The quality assurance manual must be filed by the Licensee for certifications to be released, certification labels ordered, certification marks authorized, or inspections conducted by NAMI.

A separate manual must be provided for each manufacturing location involved or the variations between facilities clearly indicated and maintained on file at each location.

Section VIII: Inspection

1. Products certified under the NAMI Thermal Certification Program shall be inspected on an annual basis.
2. Inspections and inspection reports will be conducted and issued in accordance with Section 2.5 and 2.6 of the NAMI Procedural Guide and Section 7 of the NAMI Quality Assurance Manual.
3. The inspection data recorded is of a proprietary nature and is only used as the reference material for issuance of the formal Inspection Report which will be forwarded to the license within ten (10) days of the inspection.
4. All non-compliances and action items shall be addressed in accordance with Section 2.14 of the NAMI Procedural Guide.

Section IX: Labeling

1. Certified products are required to have both a NAMI permanent certification label and a compliant NAMI or NRCan temporary label.
2. All permanent certification labels shall be purchased through NAMI, or the licensee is required to enter into a label printing agreement with NAMI.
3. All temporary labels shall be reviewed and approved by the NAMI Administrator or designated technical engineer prior to affixing to certified products.
4. The temporary label shall be used for one model only. Multiple model or “matrix” labels are not permissible.
5. The temporary label shall contain the following information:
 - a. The ENERGY STAR certification mark;
 - b. “Do Not Remove” notification text;
 - c. Certified performance values (U-Factor, SHGC, ER & VT);
 - d. Licensee’s model or brand name;
 - e. Product’s frame type;
 - f. Product’s operator type;
 - g. Number of glazing layers;
 - h. Gas fill type and number of cavities filled for units with more than one cavity;
 - i. Low-E coating and the surface number to which the coating is applied;
 - j. Generic height of the internal grills, if applicable;
 - k. Unique model code or the NRCan reference number;
 - l. The test standard and revision year to which the product was certified to;
 - m. Testing and warranty disclaimer text;
 - n. The NAMI Certification Mark.
6. The temporary label shall conform to the size requirements as stipulated in the NRCan guidelines for the labeling of ENERGY STAR certified windows, doors, and skylights.
7. Licensees must be registered with the Natural Resources Canada (NRCan) or the US ENERGY STAR program to sell or promote products as ENERGY STAR certified and to use the ENERGY STAR name and symbol.
8. If the licensee does not intend to sell or promote the products as ENERGY STAR certified, the minimum temporary label size shall be at least 102mm x 152mm (4” x 6”).

Note: All of the guidelines within this appendix are in addition to the NAMI Procedural Guidelines.

APPENDIX M

NAMI'S SAFETY GLAZING CERTIFICATION PROGRAM

This document is a supplement and is intended to be used in conjunction with NAMI's Certification Program Procedural Guidelines.

Section I: General

1. This appendix establishes the procedures and specifications used for the decision of certification for safety glazing materials (glazing materials designed to promote safety and reduce the likelihood of cutting and piercing injuries when glazing materials are broken by human contact) as used for all building and architectural purposes.
2. Certification of a material under this appendix constitutes acceptance of its safety characteristics and the retention of those characteristics. The certification is not intended to be construed as an appraisal of the material's durability or appearance as a glazing material.
3. Certifications issued by the NAMI Administrator represents that the product(s) conform to the applicable standard(s) to which the product(s) were tested. Interested parties should visit www.namicertification.com to assure that the product(s) are active and currently listed. Products not visible on the NAMI website shall be considered inactive and/or not certified. Licensees should routinely visit the NAMI website to review the product listings to ensure that the information displayed is accurate and current.
4. The NAMI Safety Glazing Certification Program is applicable to only glazing materials that the NAMI Administrator has authorized for certification. The individual glazing materials authorized for certification are limited to the following product types:
 - a. Storm Doors
 - b. Combination Doors
 - c. Side-Hinged Doors
 - d. Sliding Glass Doors
 - e. Windows
 - f. Curtain Wall Systems
 - g. Window Wall Systems
 - h. Glazed Skylights

Section II: Test Standards

1. NAMI's Safety Glazing Certification Program provides for equitable administration, evaluations, decisions, and enforcement through the use of the standards as defined in Section 2.1 of NAMI's Certification Program Procedural Guidelines, including but not limited to:
 - a. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials;
 - b. ANSI Z97.1 - Safety Glazing Materials Used In Buildings – Safety Performance Specifications and Methods of Test;
 - c. CAN/CGSB 12.1-M90 – Tempered or Laminated Safety Glazing;
 - d. ASTM C1036 – Standard Specification for Flat Glass;
 - e. ASTM C1048 – Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass;
 - f. ASTM C1172 – Standard Specification for Laminated Architectural Flat Glass;

- g. ASTM C1464 – Standard Specification for Bent Glass;
 - h. NAMI Procedural Guide
2. If any revisions are made to these referenced standards, NAMI will review the effect of such revisions on the Licensee’s Products. NAMI will notify each Licensee of the date such revisions shall become effective.

Section III: Qualification Test

1. Upon initial enrollment, the Licensee shall be required to submit samples to an ISO/IEC 17025 accredited laboratory for testing to the ANSI Z97.1 or 16 CFR 1201, as applicable.
2. Testing shall be conducted on specimens that are representative of commercial production, except that any protective masking shall be removed prior to testing.
3. The thickness of the specimens shall be measured and recorded along with the nominal thickness in accordance with accepted industry practices and in accordance with the ASTM C1036 and/or other industry accepted standards.
4. The Licensee shall not mark or advertise any glazing material as being “certified” by NAMI if such glazing material has a nominal thickness that is as described by the NAMI Certification.
5. The Licensee shall determine the size classification for which the glazing material is intended:
 - a. Unlimited size (U): 34” x 76” ±0.125” (864mm x 1930mm ±3mm);
 - b. Limited size (L): As deemed appropriate by the NAMI Licensee. The specimens shall be of the largest size commercially produced by the NAMI Licensee, less than 34” x 76” ±0.125” (864mm x 1930mm ±3mm) but shall not be less than 16” x 30” ±0.125” (406mm x 762mm ±3mm).
6. If the Licensee chooses to have their products tested under the limited size classification, the Licensee shall not mark or advertise any glazing material as being “certified” by NAMI if such glazing has a dimension that exceeds the dimensions tested.
7. The Licensee shall determine the impact (drop height) classification for which the product should meet:
 - a. Class A – Glazing material shall be subjected to impact (drop height) testing in accordance with the ANZI Z97.1 at a drop height between 48” and 48.5” (1219mm and 1232mm), using an impact specimen appropriate to the size classification stipulated in Section III.5.
 - b. Class B – Glazing material shall be subjected to impact (drop height) testing in accordance with the ANZI Z97.1 at a drop height between 18” and 18.5” (457mm and 470mm), using an impact specimen appropriate to the size classification stipulated in Section III.5.
 - c. Glazing material qualified for Class A impact classification shall meet the requirements for Class B impact classification.
8. The following glazing materials shall have the applicable tests conducted to be considered for certification:
 - a. Tempered Glass:

- i. Impact
 - ii. Center punch fragmentation (The center punch fragmentation test is used to evaluate the fracture pattern of tempered glass specimens that do not break during the impact test)
- b. Laminated Glazing:
 - i. Impact
 - ii. Thermal
 - iii. Weathering (Weathering test on laminated or organic coated glazing shall be performed on the thinnest construction of all components with clear glass, clear plastics, or clear interlayers)
 - iv. Indoor aging
- c. Organic Coated Glazing:
 - i. Impact
 - ii. Thermal (Thermal testing only applies to organic coated glazing that is used for exterior glazing)
 - iii. Weathering (Mirror glazing shall be tested in accordance with the ANZI Z97.1, Section 5.4.3)
 - iv. Indoor aging
- d. Plastic Glazing:
 - i. Impact
 - ii. Weathering
 - iii. Indoor aging
 - iv. Hardness (Only if breakage occurs under impact testing)
 - v. Modulus (Only if breakage occurs under impact testing)

9. Specimens required for impact tests:

- a. Four specimens required.
- b. Size and thickness shall be as described in Section III.5, dependent on the classification that the Licensee chooses.
- c. If test specimens are of an asymmetrical material, two shall be impacted from each side.
- d. Mirror glazing, using either reinforced or non-reinforced organic adhesive backing, require four specimens with the backing material applied at the size and thickness described in Section III.5.
- e. Bent glass test methods shall be of the same size as flat glass testing. For unlimited size classification, the size of the specimens shall be 34" x 76" (864mm x 1930mm) with a simple arc-shaped bend of 40" (1016mm). (See ASTM C1464 for additional information)
- f. Where project specific requirements or limitations in production exists, other shapes and sizes may be tested.

10. Specimens required for thermal tests:

- a. Three specimens required.
- b. The size of the specimens shall be 12" x 12" (310mm x 310mm) and be representative of the Licensee's commercial production and identical in manufacture and nominal thickness as the specimens submitted for impact testing.

11. Specimens required for weather tests:

- a. Six specimens required. (Three specimens required for exposure to energy source and three specimens for control group)
 - b. Exposed and control specimens shall be tested in accordance with ASTM D1435 for direct weathering or ASTM D2565 or ISO 4892-2 for accelerated weathering.
12. Specimens required for plastic glazing material:
- a. Two specimens required. (One un-backed specimen required for exposure to energy source and one specimen for control group)
 - b. The size of the specimens shall be 6" x 6" (152mm x 152mm)
 - c. Five specimens required for impact sharp test (ASTM D6110)
13. Specimens required for laminated and organic coated glazing material:
- a. Six specimens required. (Three specimens required for exposure to energy source and three specimens for control group)
 - b. The size of the specimens shall be 2" x 5.5" (51mm x 140mm)
 - c. Optical measurements for visible light transmittance, yellowness, haze, and color may be taken on an unexposed sample designated for exposure to serve as the unexposed control group)
14. Specimens required for modulus and hardness test:
- a. One specimen required.
 - b. Specimen dimensions are dependent on the thickness of the material and the span distance capabilities of the laboratory's test apparatus.
 - c. Dimensions of the test specimen shall meet the requirements of the ASTM D790 for flatwise tests.
 - d. For common plastic glazing and common test apparatus capabilities, specimens having dimensions of 0.5" x 5" (12.7mm x 127mm) can meet the specimen requirements. (Decreased width and/or increased length may be needed in some cases to meet the span to depth ratio, span to width ration and span to length requirements of the standard.
15. Specimens required for Rockwell hardness test:
- a. One specimen required.
 - b. Specimens shall be at least 1 square inch (25mm) and at least 0.25" thick (6mm) thick. (Materials less that 0.25" (6mm) thick may be stacked provided that the precautions noted in ASTM D785 are met)
16. Specimens shall be deemed eligible for certification only after having met the applicable qualifying criteria as set forth in Section 5.4 of the ANSI Z97.1, and if the Licensee is in compliance with all NAMI procedural requirements.

Section IV: Notice of Product Certification

1. NAMI shall review all applicable test reports and test data for completeness and compliance to the applicable standards and program guidelines.
2. Upon successful completion of testing and a review of the test report, a Notice of Product Certification shall be issued. The Notice of Product Certification will contain a certification mark that will be unique for that product line. The certification mark will consist of:

- NAMI: Denotes National Accreditation & Management Institute's Safety Glazing Certification Program.
- SGXXXX-X.X.: The five digits will be a number that is the identification code that NAMI has designated for the Licensee's product and manufacturing location.
3. Certification is granted based on the initial test date and is contingent on the requirement that the composition used in the certified safety glazing and the manufacturing process used to make the certified safety glazing has not deviated from the criteria as specified in the submitted test report.
 4. Certification shall be valid for four (4) years and is contingent on the requirement that the composition of the certified safety glazing in the certified safety glazing or the manufacturing process used to make the certified safety glazing has not deviated from the criteria as specified in the submitted test report.
 5. The Licensee has the option to request the certification to be extended as long as the standard(s) are recognized by Authorities having Jurisdiction (AHJ), is compliant with all NAMI procedural guidelines and licensing terms.
 6. Certification shall expire under the following conditions:
 - a. The expiration date of the certification has transpired, and the Licensee has not requested an extension of the product certification;
 - b. Voluntary written withdrawal of the safety glazing product by the Licensee;
 - c. Failure to comply with the program requirements, as determined by the NAMI Administrator;
 - d. Failure to adhere to the in-plant quality process requirements;

Section V: Application of Certification Mark

1. Upon notification of product certification, the Licensee may identify safety glazing fabricated within confines of the certified safety glazing product line with the authorized NAMI certification mark.
2. The NAMI certification mark is a registered trademark that is listed with the U.S. Patent Trademark Office and is coded for identification of the Licensee and the location in which certified profiles are authorized to be produced.
3. Certified safety glazing products (each pane) shall bear the manufacturer's mark designating the type and thickness of the glass or glazing material.
4. Each pane of tempered glass, except tempered spandrel glass shall be permanently marked by the manufacturer. The identification mark shall be acid-etched, sand-blasted, ceramic-fired, laser-etched, embossed or of a type that, once applied, cannot be removed without being destroyed. (Tempered spandrel glass shall be provided with a removable paper marking by the manufacturer that meets the requirements)
5. The mark shall contain the following information:
 - a. Licensee's name, distinctive mark or designation;
 - b. The NAMI certification mark, as shown on the NAMI product certification;
 - c. The words "American National Standard Z97.1-(Revision year)" or the characters "ANSI-Z97.1 (Revision year)"
 - d. Classification of test size ("L" or "U") and drop height class ("A" or "B"). (Plastic glazing does not require a drop height class)
 - e. Place of fabrication (If Licensee has more than one location fabricating the certified product)

- f. Additional details and information, such as glass type, thickness and date of manufacture are permitted.
6. Upon suspension or revocation of product certification authorization, the Licensee shall immediately cease using the NAMI certification mark and/or any mark insinuating that the product is certified within (10) business days after the date of suspension or revocation.
7. The NAMI certification mark serves to identify profiles that conform to the procedures established by the applicable standards and the NAMI Procedural Guide.
8. The Licensee, by affixing the certification mark, is stipulating that the product is representative of the test specimen that was evaluated and certified.
9. The NAMI certification mark shall only be applied to products authorized for NAMI Certification.
10. Format and the size of the conformance mark bearing the NAMI certification mark shall be at the discretion of the NAMI Administrator.
11. Safety glazing certification marking, bearing the NAMI certification mark, shall only be permitted to be affixed at the authorized safety glazing production facility.
12. The Licensee shall designate an individual responsible for managing all aspects of marking, including the procurement, safeguard, handling, and operation of equipment capable of producing the NAMI certification mark.

Section VI: Conditional Approval

1. Due to the length of the testing process, the NAMI Administrator may grant conditional approval for safety glazing products submitted for certification consideration under the following conditions:
 - a. If the Licensee has conducted all tests stated in Section III.8 at a NAMI approved testing laboratory with the exception of the prolonged weathering test.
2. If the safety glazing material submitted for certification consideration requires prolonged weathering testing in accordance with the applicable standards, the NAMI Administrator may grant conditional approval for profiles that have met the above stated conditions in interim, if the Licensee has a weathering test pending.
3. The NAMI Administrator reserves the right and is responsible for decisions relating to granting, maintaining, extending, suspending, and withdrawing authorization for certification, within the parameters as specified in this appendix and the NAMI Procedural Guide.

Section VII: Laboratory Test Failure

1. If any safety glazing material specimen(s) or group of specimens selected for testing during the conditional approval period fails the weathering test, the Licensee shall select a new specimen(s) or a new group of specimens and forward to a NAMI approved testing laboratory within 60 days, unless special circumstances exist. The number of specimens collected shall be the same number and type as the previous sample size and shall have the same composition as the failed specimens. The specimens shall be permanently marked.
2. If any re-tested specimen fails to meet any of the test requirements, the NAMI Administrator shall immediately suspend the certification authorization for the specific safety glazing material, until successful retesting has been completed and the results of which have been reviewed by NAMI.

3. If the results from the re-tested specimen(s) or specimen group successfully pass the requirements of the applicable standards, the result of the original test failure and the re-testing results shall be maintained for a minimum of 5 years.
4. If a specimen(s) or specimen group fails to meet the weathering requirements, as specified by the applicable standard, the Licensee shall immediately inform NAMI upon receipt of the test results. The Licensee shall select a new specimen or a new group of specimens having the same applied composition and forward to a NAMI approved testing laboratory within 60 days, unless special circumstances exist. The number of specimens collected shall be the same number as the previous sample size and shall have the same applied composition as the failed specimens. The specimens shall be permanently marked.
5. The Licensee shall have the right to voluntarily withdraw any profile from the NAMI Safety Glazing Certification Program.
6. All costs for re-testing shall be borne by the Licensee.

Section VIII: Re-Qualification Testing

1. If a NAMI certified safety glazing material has been disqualified as a result of any physical test failure, the Licensee may request in writing to have the safety glazing material re-qualified, if the following criteria have been met:
 - a. The process for requalification shall be the same as stipulated in Section III, Appendix L of the NAMI Procedural Guide. All sampling selection and testing processes shall be repeated.
2. Re-qualification shall not be permitted until all outstanding invoices for cost(s) incurred for program participation have been reconciled.
3. Re-Qualification shall not be permitted until all required qualification testing has been conducted and the Licensee has shown compliance with all of the requirements, as stated in Appendix J of the NAMI Procedural Guide.

Section IX: In-Plant Inspections and QA Documentation Reviews

1. Inspections will be performed in accordance with the NAMI Certification Program's Guidelines.
2. Inspections of Licensee's production facilities will be conducted on a bi-annual basis.
3. The inspection and the inspection report shall consist of, but not limited to the accumulation of the following information and verification checks:
 - a. Manufacturer's name, location and assigned code number;
 - b. Date of inspection;
 - c. Name of contact person(s);
 - d. Safety glazing(s) inspected;
 - e. Required in-house test inspections to be performed and their frequency;
 - f. Verification of material compliance for all certified safety glazing products;
 - g. Verification of material compliance for all third-party suppliers and applicators;
 - h. Quality assurance practices and documentation;
 - i. Quality assurance practices pertaining to the manufacturing process;
 - j. Quality assurance practices pertaining to addressing non-compliance issues in relation to the safety glazing product's specification requirements;

- k. Quality assurance practices pertaining to the sampling of safety glazing products for the required testing requirements of the applicable standard;
 - l. Any additional information.
4. During each inspection, the NAMI Inspector shall verify the Licensee's procedures for production testing in accordance with the requirements of the ANSI Z97.1. The following safety glazing products shall have the production testing:
 - a. Tempered – In accordance with the ANSI Z97.1, a centerpunch and/or impactor test shall be conducted, at a minimum, on the first of each product thickness per production shift and documented.
 - b. Laminated – In accordance with ANSI Z97.1, or ASTM F3007, an impactor test shall be conducted at a minimum monthly on samples collected during the production month. Samples shall be collected during regular production periods weekly with actual testing to be conducted monthly. Sample collection must be traceable to specific production runs and documented. For ASTM F3007 testing, sampling, and testing shall occur at a minimum on the thinnest product(s) produced. Evaluation shall occur and drop height selection shall be in accordance with ASTM F3006.
5. The NAMI Inspector, during each inspection, shall witness at least one production test.
6. The NAMI Inspector, during each inspection, shall review historical production test records to ensure procedures and traceability has been documented and followed.
7. The NAMI Inspector, during each inspection, shall evaluate the method and procedures used for production tests to ensure they are in accordance with the ANZI Z97.1 and NAMI Procedural Guidelines.
8. During each inspection, the NAMI Inspector shall review the Licensee's quality assurance program and documentation to determine compliance to Appendix F of the NAMI Procedural Guide.
9. Licensees shall reaffirm at the time of inspection that the Licensee complies with the requirements of this appendix.
10. The Licensee shall conduct an internal review of the Licensee's quality assurance and production documents and records on an annual basis. The Licensee's quality assurance manual shall be reviewed and revised on an annual basis, with a copy of the revised manual forwarded to NAMI.
11. The review and review report shall consist of, but not limited to the accumulation of the following information and verification checks:
 - a. Manufacturer's name, location and assigned code number;
 - b. Date of inspection;
 - c. Name of contact person(s);
 - d. Required in-house test inspections to be performed and their frequency;
 - e. Verification of material compliance for all certified safety glazing materials;
 - f. Verification of material compliance for all third-party suppliers and applicators;
 - g. Quality assurance practices and documentation;
 - h. Quality assurance practices pertaining to the manufacturing process;
 - i. Quality assurance practices pertaining to addressing non-compliance issues in relation to the profile specification requirements;
 - j. Quality assurance practices pertaining to the sampling of safety glazing materials for the required testing requirements of the applicable standard;
 - k. Any additional information.

12. Licensees shall be required to forward all requested documentation to NAMI prior to the start of the review process. NAMI will review all received documentation for compliance to Appendix L of the NAMI Procedural Guide. NAMI may elect to schedule a meeting, via teleconferencing or other electronic methods, with the Licensee's management personnel to discuss any questions or concerns arising from the review. The Licensee shall make available the appropriate personnel at the time agreed upon by NAMI and the Licensee.
13. Licensees shall be required to follow the guidelines set forth in Section 2.11 of the NAMI Procedural Guide in addressing non-compliance issues and corrective/preventive actions.
14. Licensees shall be required to follow the in-process requirements as set forth in the applicable standards to which the products are certified to.

Section X: In-Plant Quality Assurance Requirements

1. The Licensee shall maintain a documented quality assurance program in compliance with NAMI's requirements.
2. Each manufacturing location shall have a quality assurance manual. The quality assurance manual shall clearly identify the manufacturer's name, street address, phone-numbers, email address and legal status and contact information for the member of the organization identified.
3. Each Licensee is required to maintain a quality assurance manual which outlines the quality assurance procedures. The quality assurance manual shall contain at a minimum procedures outlining the following information:
 - a. Manufacturer's name, street address, phone number, email address and legal status.
 - b. Contact information for the member responsible for oversight of the Quality Assurance Program.
 - c. Locations and contact information for multiple locations (if applicable).
 - d. Revision date.
 - e. Procedures for reviewing and updating the quality assurance manual for suitability, accuracy, and effectiveness, at a minimum of once every 12 months.
 - f. Procedures for document control.
 - g. Procedures or a process to ensure only current documentation is used in processes directly affecting the quality of the product.
 - h. A production flowchart or a description of the process in which the product is manufactured.
 - i. Procedures for product identification, detailing the description of the product, tolerances, specifications, and schematics.
 - j. Procedures outlining the quality checks that are conducted to ensure conformity or compliance to the product certification or requirements as specified in the appropriate standard, as specified in Section XI, Appendix L of the NAMI Procedural Guide.
 - k. Procedures for labeling, labeling control, and application of the certification mark.
 - l. Procedures detailing the ability to trace a product and its materials to the point of inception.
 - m. Procedures for the handling, identification, packaging, and protection of certified products and/or products approved for certification.
 - n. Procedures detailing the actions taken to correct manufacturing defects and/or processes.
 - o. Procedures for documenting and correcting complaints from the general public, building officials or product control inspectors (IE: NAMI). Documentation shall contain any actions taken to prevent further occurrence.
 - p. Procedures for verification/inspection of incoming materials and their ability to conform to the requirements established by the product certification or the applicable standard's requirements.
 - q. Procedures for the handling, segregation, and disposition of non-conforming or damaged incoming or in-process material.

- r. Procedures for the verification of critical measurement devices (IE: Tape Measure and/or Calipers), including the time intervals, procedures for documenting and the traceable standards used.
 - s. Procedures for identification, storage, protection, retrieval, retention time and disposition of records relating to production and quality assurance.
4. The quality assurance manual shall define and indicate a member of the organization, irrespective of other duties, that shall have responsibilities and authority that includes:
- a. Ensuring that processes are established, implemented, and maintained,
 - b. Reporting and resolving quality assurance issues related to third parties on matters related to the quality assurance program.
 - c. This person shall have direct access to top management.
 - d. There shall be a management statement assigning the person designated.
 - e. There shall be a relevant job description of personnel assigned to the quality assurance program.
 - f. There shall be a policy statement on qualification and training of personnel.
5. The quality assurance manual must be provided to NAMI within thirty (30) business days of signing the license agreement.
6. The quality assurance manual must be filed by the Licensee for certifications to be released, certification labels ordered, certification marks authorized, or inspections conducted by NAMI.
7. A separate manual must be provided for each manufacturing location involved or the variations between facilities clearly indicated and maintained on file at each location.