



National Fenestration
Rating Council®

National Fenestration Rating Council Incorporated

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Calculation Entity Approval Program Document

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FOREWORD

The National Fenestration Rating Council, Incorporated (NFRC) has developed and operates a uniform rating system for energy and energy-related 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, are mandatory ratings for inclusion on label certificates, and are supplemented by procedures for voluntary ratings of products for Air Leakage (AL), Ventilation Rating (VR), and Condensation Resistance. Together, these rating procedures, as set forth in documents published by NFRC, are known as the NFRC Rating System.

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

The requirements of the rating, certification, and labeling program (Certification Program) are set forth in the most recent versions of the following as amended, updated or interpreted from time to time:

- NFRC 700 Product Certification Program (PCP).
- NFRC 705 Component Modeling Approach (CMA) Product Certification Program (CMA-PCP).

Through the Certification Program and the most recent versions of its companion programs as amended, updated, or interpreted from time to time:

- The laboratory accreditation program (Accreditation Program), set forth in the NFRC 701 Laboratory Accreditation Program (LAP).
- The IA licensing program (IA Program), set forth in NFRC 702 Certification Agency Program (CAP).

- The CMA Approved Calculation Entity (ACE) licensing program (ACE Program) as set forth in the NFRC 708 Calculation Entity Approval Program (CEAP).

NFRC intends to ensure the integrity and uniformity of NFRC ratings, certification, and labeling by ensuring that responsible parties, testing and simulation laboratories, and IAs adhere to strict NFRC requirements.

In order to participate in the Certification Program, a Manufacturer/Responsible party shall rate a product whose energy and energy-related performance characteristics are to be certified in accordance with mandatory NFRC rating procedures. At present, a Manufacturer/Responsible Party may elect to rate products for U-factor, SHGC, VT, Air Leakage, Condensation Resistance, or any other procedure adopted by NFRC, and to include those ratings on the NFRC temporary label affixed to its products, or on the NFRC Label Certificate. U-factor, SHGC and VT, AL, VR, and Condensation Resistance rating reports shall be obtained from a laboratory that has been accredited by NFRC in accordance with the requirements of the NFRC 701.

The rating shall then be reviewed by an IA which has been licensed by NFRC in accordance with the requirements of the NFRC 702. NFRC-licensed IAs also review label format and content, conduct in-plant inspections for quality assurance in accordance with the requirements of the NFRC 702, and issue a product Certificate of Authorization (CA), or approve for issuance an NFRC Label Certificate for site-built or CMA products and attachment products. The IA is also responsible for the investigation of potential violations (prohibited activities) as set forth in the NFRC 707 Compliance and Monitoring Program (CAMP).

Ratings for products that are labeled with the NFRC Temporary and Permanent Label, or products that are listed on an NFRC 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 selected by the manufacturer/responsible party for which certification authorization has been granted.

NFRC manages the Rating System and regulates the Product Certification Program (PCP), Laboratory Accreditation Program (LAP) and Certification Agency Program (CAP) in accordance with the NFRC 700 (PCP), the NFRC 701 (LAP), the NFRC 702 (CAP), the NFRC 705 (CMA-PCP), and the NFRC 708 (CEAP) procedures, and conducts compliance activities under all these programs as well as the NFRC 707 (CAMP). NFRC continues to develop the Rating System and each of the programs.

NFRC owns all rights in and to each of the NFRC 700, NFRC 701, NFRC 702, NFRC 705, NFRC 707, NFRC 708 and each procedure, which is a component of the Rating System, as well as each of its registration marks, trade names, and other intellectual property.

The structure of the NFRC program and relationships among participants are shown in Figure 1, Figure 2, and Figure 3. For additional information on the roles of the IAs and laboratories and operation of the IA Program and Accreditation Program, see the NFRC 700 (PCP), NFRC 701 (LAP), and NFRC 702 (CAP) respectively.

Figure 1

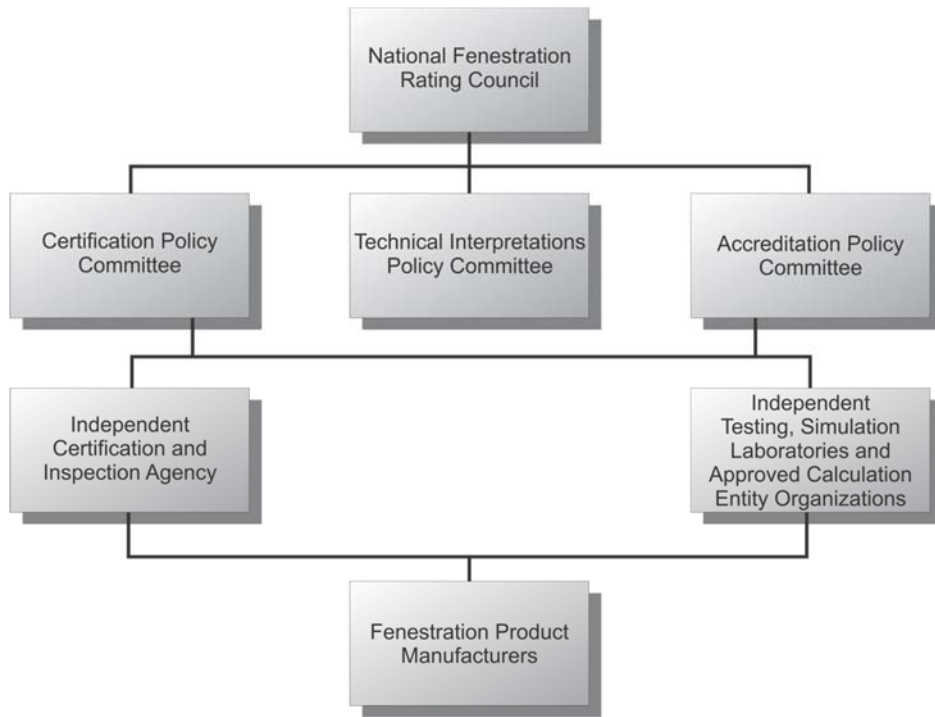


Figure 2

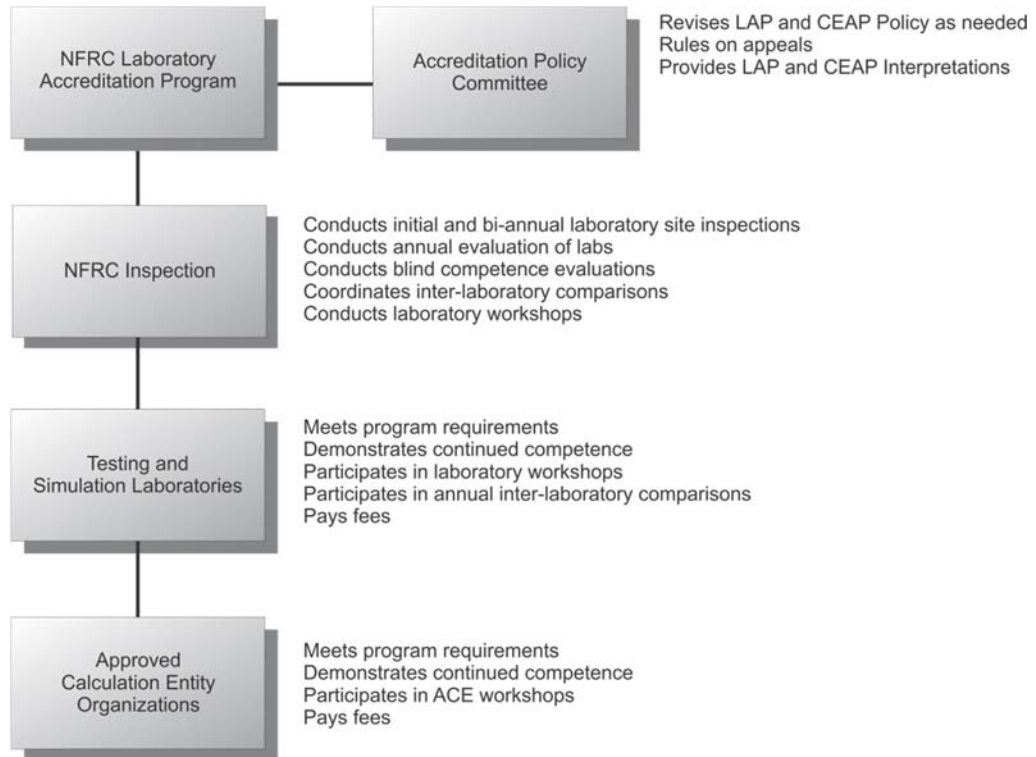
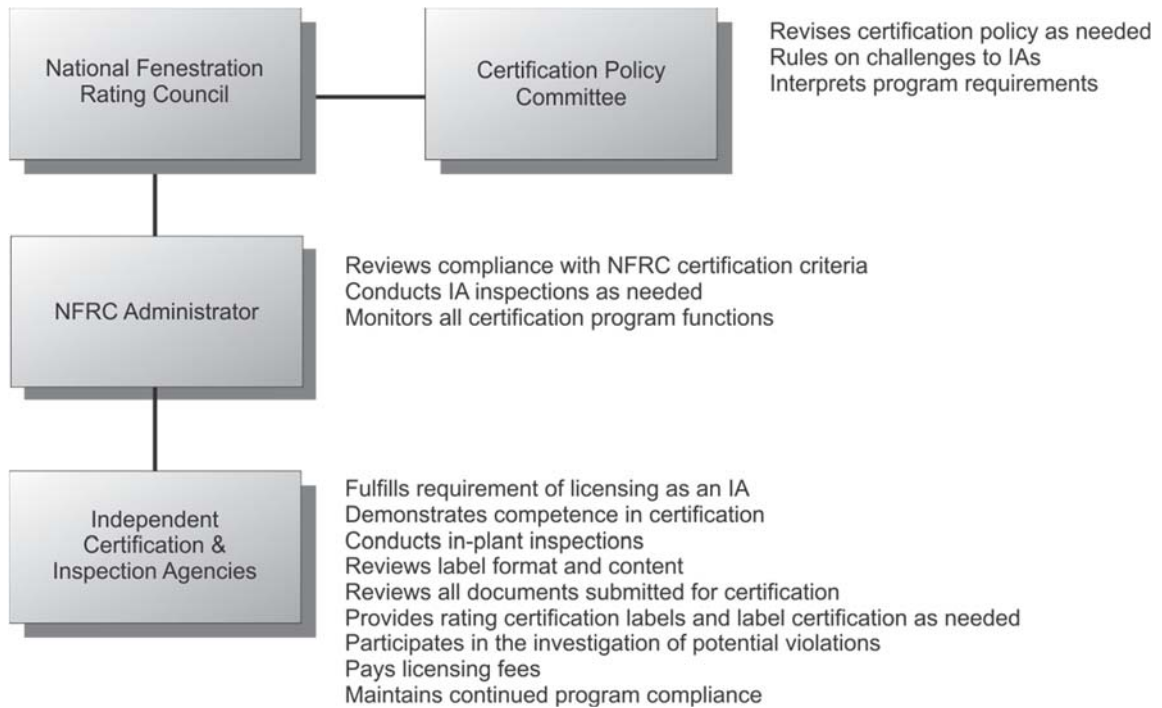


Figure 3



Questions on the use of this procedure should be addressed to:

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DISCLAIMER

NFRC certification is the authorized act of a Manufacturer/Responsible Party in: (a) labeling a fenestration or related attachment product with an NFRC Permanent Label and NFRC Temporary Label, or (b) generating a site built or CMA label certificate, either of which bears one or more energy performance ratings reported by NFRC-accredited simulation and testing laboratories and authorized for certification by an NFRC-licensed IA. Each of these participants acts independently to report, authorize certification, and certify the energy-related ratings of fenestration and related attachment products.

NFRC does not certify a product and certification does not constitute a warranty of NFRC regarding any characteristic of a fenestration or fenestration-related attachment product. Certification is not an endorsement of or recommendation for any product or product line or any attribute of a product or product line. NFRC is not a merchant in the business of selling fenestration products or fenestration-related products, and therefore cannot warrant products as to their merchantability or fitness for a particular use.

NFRC THEREFORE DISCLAIMS ANY AND ALL LIABILITY THAT MAY ARISE FROM OR IN CONNECTION WITH SERVICES PROVIDED BY, DECISIONS MADE BY OR REPORTS OR CERTIFICATIONS ISSUED OR GRANTED BY ANY NFRC-ACCREDITED LABORATORY, NFRC-LICENSED IA OR ANY PRODUCT MANUFACTURER/ RESPONSIBLE PARTY; RELIANCE ON ANY NFRC PRODUCT DESCRIPTION, SPECIFICATION, RATING, TEST OR CERTIFICATION, WHETHER APPEARING IN A REPORT, A PRODUCT CERTIFICATION AUTHORIZATION OR A PRINTED OR ELECTRONIC DIRECTORY, OR ON A LABEL, OR ON A LABEL CERTIFICATE; OR THE SALE OR USE OF ANY NFRC-RATED OR CERTIFIED PRODUCT OR PRODUCT LINE; INCLUDING BUT NOT LIMITED TO DAMAGES FOR PERSONAL OR OTHER INJURY, LOST PROFITS, LOST SAVINGS OR OTHER CONSEQUENTIAL OR INCIDENTAL DAMAGES.

NFRC program participants are required to indemnify NFRC from and against such liability.



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1. SCOPE OF THE CALCULATION ENTITY APPROVAL PROGRAM (CEAP)

1.1 Scope of the CEAP

- A. The CEAP sets forth requirements applicable to legal entities that wish to participate in the NFRC Component Modeling Approach Product Certification Program (CMA-PCP) as an Approved Calculation Entity (ACE) Organization that is authorized to provide performance calculations of fenestration products and issue CMA Label Certificates using the services of individuals who have received Certificates of Approval as Approved Calculation Entities (ACEs) under the CEAP.
- B. The CEAP also sets forth the requirements for individuals to obtain Certificates of Approval as ACEs and conduct day-to-day operations under the program.

1.2 Responsibility of NFRC

- A. The NFRC has established, and will sponsor and operate the Calculation Entity Approval Program (CEAP).
- B. The Accreditation Policy Committee (APC) is responsible for oversight of the CEAP.
- C. The Senior Programs Manager, CMA Program Manager, and CMA Program Coordinator are the staff liaison for the CEAP.

1.3 Responsibility of Approved Calculation Entity (ACE)

- A. Approved Calculation Entities (ACEs) conduct performance calculations of fenestration product ratings for U-factor, Solar Heat Gain Coefficient, and Visible Transmittance using the NFRC-approved Component Modeling Approach Software Tool (CMAST). The ACE shall be assigned as an “Independent” or “Manufacturer/Other” ACE.
- B. ACEs conduct performance calculations of fenestration product ratings and issue CMA label certificates for products associated with a specified project to Specifying Authorities in accordance with NFRC requirements.
- C. ACEs are expected to maintain a high degree of technical and professional rigor and to exercise the highest level of professional ethics.
- D. ACEs shall participate in the investigation of potential violations (prohibited activities) as set forth in the NFRC Compliance and Monitoring Program.
- E. ACEs shall provide fenestration product rating calculations, reflected in CMA label certificates, to an NFRC-licensed Certification and

Inspection Agency (IA) for review as set forth in the CEAP and the NFRC 705: CMA Product Certification Program.

1.4 Responsibility of Approved Calculation Entity Organization

- A. ACE Organizations shall submit an application for licensing to the NFRC, identifying its ACE employees/contractors.
- B. ACE Organizations shall enter into a license agreement with the NFRC governing the relationship between NFRC and the ACE organization and its ACE employees/contractors.
- C. ACE Organizations shall pay any and all applicable CEAP fees.
- D. ACE Organizations shall be authorized to provide CMA certification services in accordance with the CEAP through its ACE employees/contractors.

2. GLOSSARY OF TERMS

Approved Calculation Entity (ACE) – An individual, who has attended an NFRC Calculation Training Workshop, completed and passed all necessary examinations, and has obtained a Certificate of Approval which qualifies him or her to carry out performance calculations of fenestration products for certification using the Component Modeling Approach.

- **Independent ACE** – An ACE that meets the independence requirements of Section 3.
- **Manufacturer/Other ACE** – An ACE that does not meet the independence requirements of Section 3.

ACE Organization – Legal entity owned by the ACE, or employs or contracts with the ACE to perform CMA calculations and issue CMA Label Certificates under the CEAP.

- **Independent ACE Organization** – An ACE Organization that meets the requirements of Section 3 and signs an Independent ACE license agreement.
- **Manufacturer/Other ACE Organization** – An ACE Organization that does not meet the independence requirements of Section 3 and signs a Manufacturer/Other ACE license agreement.

3. INDEPENDENCE REQUIREMENTS

3.1 Independent ACE/ ACE Organization

3.1.1 Independence Requirements of ACE Individual

- A. The ACE shall meet the following independence requirements, so NFRC certification services are rendered objectively and without bias.
- B. The ACE and any affiliate of the ACE shall not:
 - i. Have any financial interest in, or family or organizational affiliation to, any fenestration product or component manufacturer, supplier, vendor, fabricator, or installer;
 - ii. Have any financial interest in, or family or organizational affiliation to any firm for which any one of them provides NFRC-licensed certification and inspection agency services;
 - iii. Advocate or recommend the use of any product (or product component) for which the ACE provides NFRC CMA certification services;
 - iv. Advocate or recommend the use of a particular thermal performance certification agency providing NFRC-licensed services;
 - v. Be involved in the commercial design or fabrication of fenestration products or components.

3.1.2 Independence Requirements for ACE Organization

In order for an ACE Organization to be recognized by NFRC as an Independent ACE Organization, the organization shall meet the following independence requirements:

- A. The Independent ACE Organization and each of its ACE employees/contractors, and equity owners, officers, directors, managers, and any affiliate of the organization shall not:
 - i. Have any financial interest in, or family or organizational affiliation to, any fenestration product or component manufacturer, supplier, vendor, fabricator, or installer;
 - ii. Have any financial interest in, or family or organizational affiliation to any firm for which any one

of them provides NFRC-licensed certification and inspection agency services;

- iii. Advocate or recommend the use of any product (or product component) for which the ACE provides NFRC CMA certification services;
- iv. Advocate or recommend the use of a particular thermal performance certification agency providing NFRC-licensed services;
- v. Be involved in the commercial design or fabrication of fenestration products or components.

3.1.3 Confidentiality

Each Independent ACE Organization and its Independent ACE employees /contractors shall keep confidential all product information, test data, and other proprietary information developed for or acquired from the Independent ACE Organization's clients participating in the NFRC CMA-PCP, to the extent required by such clients, except as may be expressly required by NFRC in connection with the CMA-PCP or CEAP.

3.1.4 Independence Procedures

The Independent ACE Organization that employs or contracts with an Independent ACE shall comply with the following independence procedures:

- A. Each Independent ACE Organization shall maintain a statement signed in accordance with the CEAP that its Independent ACE employees/contractors and equity owners, officers, directors, managers, or any affiliate is and shall be in compliance with the independence requirements contained in this section at all times.
- B. Each Independent ACE Organization shall notify NFRC not later than ten (10) calendar days after a change in any fact affecting the organization's compliance with the independence requirements of this section. Upon notification of such to NFRC, the APC shall be notified of this occurrence. The APC shall determine what action will be taken, if any.

4. REQUIREMENTS FOR ACE INDIVIDUAL QUALIFICATION

4.1 Introduction

- A. To qualify as an ACE, an individual shall obtain a Certificate of Approval.
- B. To obtain a Certificate of Approval an individual shall have successfully completed the NFRC Calculation Training Workshop and passed all required examinations.
- C. The Certificate of Approval is granted to an individual, not an ACE Organization, and the certificate is not conditioned on the ACE being employed by or contracted with a specific ACE Organization(s).

4.2 Technical Competence Requirements

Each ACE shall have a Bachelor's Degree or higher degree in engineering, or a closely related discipline, or a minimum of two years experience in fenestration product design and assembly.

4.3 Maintaining ACE Qualification

In order for an ACE to maintain a Certificate of Approval, the ACE shall participate in regularly scheduled NFRC CEAP workshops, maintain technical competence, participate in Calculation Reviews, , and participate in all NFRC administered Intercalculation Entity Comparisons (ICEC).

4.3.1 Maintenance of Technical Competence

- A. Each ACE shall be responsible for compliance with all technical and administrative aspects of the CEAP.
- B. The ACE shall meet the continuing education requirements set forth in the in-service education program of the ACE Organization.
- C. Each ACE shall maintain technical competence to conduct CMA calculations and issue CMA label certificates using the CMA Software Tool (CMAST).
- D. All ACEs shall participate in all NFRC administered ICECs per Section 4.3.5, and pay the annual maintenance fee to retain a Certificate of Approval.

4.3.2 Workshop Requirements

4.3.2.1 Responsibility of NFRC

- A. NFRC staff shall notify all ACEs of the workshop date thirty (30) days before the scheduled online workshop and ninety (90) days prior to an onsite workshop.
- B. Staff shall discuss with the ACE all technical interpretations and updated procedure changes during the scheduled workshop.
- C. Staff shall discuss the findings of the ICEC during the scheduled CEAP workshop if applicable.
- D. A report of all action items from the workshop shall be reported by staff to APC within thirty (30) working days. The need to address action items shall be communicated by staff on behalf of the APC to appropriate NFRC committee chairs for necessary action and resolution. Staff shall notify APC members of the resolution of an action item. If any action item is not resolved by staff within six (6) months, the APC chair shall inform the Board of such.
- E. NFRC shall host a workshop to teach any new version of NFRC approved software or implementation of a new NFRC approved software program or procedures. NFRC shall, at the direction of the APC, require ACEs to take an examination prepared by staff to maintain certification.
- F. Staff shall maintain a history log of attendance and shall inform the APC about any breach of requirements in attendance. Upon receipt of such report from Staff, the APC shall issue a notification of suspension to the ACE.

4.3.2.2 Responsibility of ACE

- A. Each ACE shall attend at least two regularly scheduled annual CEAP Workshops every three years as a condition of continued certification.
 - i. Written requests for an excused absence shall be forwarded by the ACE to Staff for the APC's consideration prior to any scheduled workshop.

- ii. Upon approval by the APC of the excused absence, the person may, at the discretion of the APC, continue as an ACE. If the APC does not grant an excused absence, and in the event that the ACE does not attend the workshop, the ACE shall be immediately suspended until such time that the ACE satisfactorily meets the conditions stipulated by the APC for reinstatement.
- iii. If the APC has determined that the workshop is essential for continuation as an ACE, the APC shall provide a course of action for the party to demonstrate competency.
- iv. In the event a workshop is held to teach any new version of NFRC approved software or implementation of a new NFRC approved software program or procedures, each ACE shall attend those workshops, take any examinations required, and pass the examination to maintain approval.

4.3.3 Review of Label Certificate Calculation Prior to Issuance

- A. Please refer to NFRC 702, section 4.1.1.4 for Calculation Review Requirements.
- B. The first five product performance calculations performed by an ACE for CMA label certificates shall be subject to review by an IA selected and contracted by the ACE Organization.
 - i. Once an ACE has undergone the number of initial calculation reviews as specified in the NFRC 705-CMA-PCP with an A or B grade per Section 4.3.3.C below, the ACE shall qualify for the statistical auditing program where each label certificate shall have a 1 in 10 chance of being selected for calculation review, as determined by CMAST at the time the certificate is issued.
 - ii. If an ACE does not qualify for the statistical auditing program, the calculations associated with each label certificate generated by the ACE shall be reviewed by an IA until the ACE gets a grade of A or B in 5 consecutive label certificates at which time the ACE shall qualify for the statistical auditing program.

- C. Upon completion of each calculation review, the IA shall rate the general quality of the ACE calculations associated with that label certificate on one of four grade levels as follows:

Grade	Description
A	All calculations and documentation correct as submitted.
B	Minor revisions or corrections were required which did not change the ratings on the label certificate.
C	Revisions or corrections were required which changed any rating of one product on the label certificate.
D	Revisions or corrections were required which changed any rating of more than one product on the label certificate.

- i. The IA shall report the assigned grade to the ACE and to the NFRC staff liaison, who shall compile and maintain a record of all ACE ratings.
- ii. The ACE may appeal the assigned grade in writing to the NFRC staff liaison and APC within fifteen (15) days from the date of receipt of the grade. The APC shall consider and decide upon the appeal within fifteen (15) days after receipt of the appeal request. The decision of the APC on calculation review grades shall be final and need not follow the appeal procedures of Section 8, unless suspension or revocation of ACE certification is involved per Section 7.
- iii. The grades of calculation reviews shall be reviewed by NFRC staff on an annual basis. If the ACE does not continue to maintain grades of A or B on more than 95% of all calculation reviews performed in the evaluation period, the ACE shall no longer qualify for the statistical auditing program, and the calculations associated with every label certificate generated by the ACE shall be reviewed by an IA. The ACE may re-qualify for the statistical auditing program after satisfying the requirements in Section 4.3.3.B.

- D. If any ACE in the statistical auditing program receives two D grades on calculation reviews at any point within a given year, the ACE shall immediately lose their qualification for the statistical auditing program, and the calculations performed by the ACE that are associated with every label certificate generated by the ACE Organization shall be reviewed by an IA.
 - i. Upon successfully completing an NFRC Training Workshop examination, the ACE may re-qualify for the statistical auditing program after satisfying the requirements in Section 4.3.3.B. The ACE may seek to re-qualify for the statistical auditing program after one year from the date of losing qualification.
- E. The APC retains the right to increase the percentage of label certificates issued by an ACE that shall be subject to calculation review if substantive problems or errors are encountered in multiple calculation reviews, until the APC determines that all issues have been resolved.

4.3.3.1 Corrective Action Procedures to Calculation Prior to Label Certificate Issuance

The following protocol shall apply if results are deemed to be incorrect in a calculation report that has been used in generating a CMA label certificate:

- A. Product calculations shall be reviewed for compliance with procedures as stipulated in ANSI/NFRC 100 and ANSI/NFRC 200, technical interpretations and other referenced or required documents, when applicable. If the NFRC determines that the results submitted for certification are incorrect due to configuration errors, the NFRC shall immediately notify the ACE, his or her ACE Organization, the IA, and the APC.
- B. The NFRC shall cite the appropriate document(s) and section number(s) in reference to the noncompliance and/or requirements in the notification.
- C. If the APC deems it necessary, the calculation report shall be immediately suspended until such time that an amended report is reviewed and approved by the NFRC.
- D. The NFRC shall instruct the ACE to perform the calculations to correct the error(s) found, and upon completion of the re-calculation(s), the data files and

information shall be reviewed by NFRC staff for compliance. The ACE shall issue an amended Label Certificate, if applicable, upon acceptance by the NFRC.

- E. It shall be the responsibility of the ACE to notify the Specifying Authority and the ACE's ACE Organization of any revised rating results.
- F. Failure to adhere to the requirements of this section may result in immediate suspension of ACE certification and/or disqualification from the statistical auditing program at the discretion of the APC.

4.3.4 Intercalulation Entity Comparison (ICEC)

- A. Each Individual ACE shall participate in an NFRC sponsored ICEC not less than once in each year following approval. Staff shall select the project to be submitted in an ICEC evaluation.
- B. Staff shall provide to the APC, all participating individuals, and ACE organizations, the preliminary results of the ICEC within 30 days of the ICEC return deadline date or the date when the last ICEC is received in the case of an approved extension(s).
- C. NFRC staff shall provide to the APC a draft of the ICEC report within 6 months of the ICEC return deadline date or the date of last received ICEC results in the case of an approved extension(s). Upon the APC approval of the ICEC report, NFRC Staff shall provide the report to all participating ACEs.
- D. Procedural and logistical requirements for the ICEC shall be established by staff and approved by the APC, in its sole discretion prior to the issuance of the ICEC.

5. REQUIREMENTS FOR ACE ORGANIZATION

5.1 Continuing Education Program Requirements

- A. An ACE Organization licensed to participate in the CEAP shall have an in-service education program for the training and education of its ACEs who provide CMA certification services which cover all requirements of the CMA-PCP, the CEAP, and ANSI/NFRC 100/200 technical procedures in effect. The education program shall ensure changes in, interpretations of, and updates to the CMA-PCP, the CEAP, ANSI/NFRC 100 and ANSI/NFRC 200, and other applicable NFRC procedures are conveyed promptly to its ACEs.

- i. A continuing education plan shall be submitted by the ACE Organization to staff in connection with the initial application process and any renewal application. The plan shall provide for regular in-house training programs, Periodic Reviews of ACEs, and participation in regularly scheduled staff workshops.
 - ii. Each ACE Organization shall maintain a log of continuing education activities, which shall be made readily available to staff when requested.
- B. Compliance by an ACE with the education requirements of this section shall be reviewed by staff in connection with the Periodic Review (Section 5.4).

5.2 Quality Control and Operations Program Requirements

Each licensed ACE Organization shall maintain an internal quality control program which meets the criteria of this section. The program shall incorporate, at a minimum; the following (can be maintained in electronic format):

- A. All current NFRC guidelines and manuals, test methods, user manuals, and other documents governing or pertaining to the operation of the NFRC 705 CMA-PCP and/or the NFRC 708-CEAP, as it affects the operations of an ACE.
- B. Mechanisms for ensuring accuracy and consistency in identifying product components as specified by a Specifying Authority and configuring those components into whole fenestration products in CMAST for obtaining performance calculations for fenestration product ratings.
- C. Mechanisms for ensuring correct use of CMAST, including the Approved Component Libraries and CMA Certified Products Directory.
- D. Methods for ensuring personnel competence including proficiency in defining projects and issuing CMA Label Certificates in CMAST.
- E. Procedures for correcting quality deficiencies.
- F. Procedures for participating in the investigation of potential violations (prohibited activities) set forth in the NFRC 707 Compliance and Monitoring Program.

5.3 Record Keeping Requirements

- A. Each ACE Organization shall maintain a system of record keeping allowing for the verification by staff of the ACE's certification of each fenestration products/systems for a project by direct review or reconstruction of issued label certificates.

- i. The record keeping system shall provide for the retention of all original evaluation data, observations and notes, product drawings, calculations and derived results, and other computer-generated files and pertinent data.
- B. Each ACE Organization shall maintain all data and reports in confidence.
- C. The records and files shall be available for review by staff at any time during customary business hours.
- D. CMA Label Certificate records, including all submitted electronic or hard copy information, regarding active product certification shall be maintained indefinitely from the date of issuance.

5.4 Periodic Review

- A. Not less than once in two years following approval, but more often if deemed necessary by the APC, NFRC shall conduct a technical evaluation assessment (“Periodic Review”) of each ACE. The ACE Periodic Review assessment shall be conducted by NFRC staff and shall be based on all of the requirements of the CEAP. NFRC has the right to conduct an unannounced on-site or off-site inspection at the ACE’s ACE Organization location or a Periodic Review at any time if deemed necessary or appropriate by the APC.
- B. Failure to submit to the Periodic Review shall result in issuance of a notice of suspension. A suspension may be appealed in accordance with the appeals procedures set forth in Section 8 of this document. A suspension may be withdrawn by the APC upon submission to a Periodic Review and compliance with all program requirements.
- C. The Periodic Review shall consist of the following:
 - i. Review of the ACE’s continuing compliance with the requirements for qualification set forth in Section 4 of this document.

- ii. Review of computer data files for products submitted for NFRC certification, where applicable, or listed in the NFRC CMA Certification Products Directory selected at random by NFRC staff from ACE or IA files, or a combination of such files.
- iii. Review of any of the following information, which the ACE Organization shall make available:
 - a) All NFRC-approved software files and product drawings for each product selected by the NFRC for comparison purposes (a minimum of three products shall be evaluated);
 - b) Any documentation provided by the Specifying Authority for each product selected by the NFRC (e.g., spacer information, material conductivities, Low-E coating data, etc.);
 - c) Calculation reports (a minimum of three reports shall be evaluated);
 - d) Proper documentation of any assumption and/or technical interpretations used in the product calculation of each product selected by the NFRC;
 - e) CMA Label Certificates issued on behalf of the Specifying Authority (a minimum of three label certificates shall be evaluated).
- D. Staff shall discuss the findings of the ICEC during the NFRC scheduled CEAP Periodic Review if applicable.
- E. Following any Periodic Review, a report shall be prepared by NFRC staff. Depending upon the severity of a non-compliance issue, NFRC may request the APC to make a determination on the status of the ACE's certification within five (5) business days of notification.
- F. A suspension under this section may be appealed in accordance with the procedures set forth in Section 8. A suspension may be withdrawn by the APC, upon a determination by the APC that the specified deficiencies have been remedied.
- G. In the event of a suspension under this Section and in the further event that the ACE does not take corrective action sufficient to permit the NFRC to determine that the deficiencies have been remedied within the 30-calendar days after the date of the notice of suspension, the APC shall issue a notice of

revocation. The revocation may be appealed in accordance with the procedures set forth in Section 8.

- H. All costs, including but not limited to travel, lodging, and NFRC staff time connected to an on-site review necessitated by a failure of the ACE to meet NFRC requirements in the Periodic Review, shall be borne by the ACE Organization and not by NFRC.

6. ACE ORGANIZATION LICENSING PROCEDURES

6.1 Introduction

- A. To become licensed as an ACE Organization, the organization shall successfully complete an application and execute a License Agreement.
- B. The ACE Organization shall employ or contract with at least one individual who has received and maintains a current Certificate of Approval as an ACE. All performance calculations and related CMA certification shall be provided through the services of the ACE.
- C. Upon successful completion of these licensing procedures, including payment of application and other fees, the ACE Organization shall be authorized to issue CMA Label Certificates.

6.2 Application for Licensure

- A. An organization seeking licensure as an ACE Organization shall file an application with the staff. The initial application form is NFRC 708.01 and can be found on the NFRC website.
- B. Application and fees are set forth in the most current Fee Schedule (NFRC 704). The initial application shall be completed in full and be accompanied by the required application fee. Annual fees shall be prorated. In addition, the applicant shall complete any other application form or provide other information NFRC requires for ACE Organizations.
- C. Any changes to the information provided in the initial application for licensure shall be addressed by revising a copy of the initial application or by submitting an amended application with references to the specific changed sections. This notification shall be provided within ten (10) business days after the change has occurred.

6.3 Initial Application Review

The application evaluation shall include examination of compliance with the following:

- A. Technical competence of ACEs employed/contracted by the ACE Organization. (see section 4.2)
- B. Independence criteria (applicable to Independent ACE/Independent ACE Organization only)
- C. Continuing Education Program
- D. Quality control/operations program
- E. Record keeping practices

6.4 Licensing

- A. After successfully fulfilling the application process, the ACE Organization shall enter into a license agreement with NFRC and pay any applicable fees. The license agreement is the principal document governing the relationship among NFRC , an ACE Organization, and its ACE employee(s)/contractor(s). The agreement also governs the use by an ACE Organization of NFRC's registered trademark and advertising of the ACE Organization's license to provide CMA certification services.
- B. An ACE Organization shall be granted authorization to issue CMA Label Certificates or to advertise its CMA participation when the license agreement is signed by the ACE Organization and NFRC, a fully executed copy is returned to the ACE Organization, and all fees are paid.
- C. The license agreement shall provide for the ACE to access and use the CMAST for CMA certification in accordance with CMAST terms of use.
- D. An ACE Organization shall notify staff of any change affecting the license agreement not later than ten (10) calendar days from the date of the change. In the event the licensee fails to notify staff within the required 10 days, the licensing shall be automatically suspended in accordance with the terms of the license agreement. Such suspension may be appealed in accordance with the appeals procedures set forth in Section 8.

6.5 Denial of Licensure

- A. No license agreement shall be entered into until all required deficiencies set forth in the application evaluation report have been corrected to the satisfaction of the APC. If the time period (including extension) for correction of deficiencies has expired without correction of the specified deficiencies, the APC shall deny licensure.
- B. If an applicant fails to fulfill any requirements for licensure as determined by the APC, staff shall inform the applicant in writing that licensure is denied and specify the reasons for the determination.
- C. A denial of licensure may be appealed in accordance with the Appeals Procedures set forth in Section 8.

6.6 Initial Review

Staff retains the right to conduct an on-site or off-site inspection to ensure the ACE Organization continues to meet NFRC 708 (CEAP) requirements.

- A. When staff receives an initial application (NFRC 708.01) and payment of application fees from an ACE organization, staff shall conduct an inspection according to NFRC 708 (CEAP).
- B. Following the initial inspection staff shall prepare the ACE Organization inspection report. Based on the findings, staff shall provide the inspection report to the ACE Organization and APC within thirty (30) days of the inspection.
- C. The ACE Organization shall provide responses to the action items and return the response to staff within thirty (30) days.
- D. The inspection report, the corresponding ACE Organization responses, and recommendations by staff will be submitted to the APC for accreditation approval.
- E. The members of the APC shall have a maximum of thirty (30) calendar days, from the date as it appears on the ballot, in which to complete the review of the evaluation report and return their determination to staff. Staff forward recommendations to the ACE Organization. Any negative responses during the ballot process shall be resolved by the APC prior to granting approval. If a negative cannot be resolved or if all APC voting members “abstain,” the ballot shall be sent to the NFRC Executive Committee for resolution.
- F. If the ACE Organization disputes any of the recommended or required action items, then the ACE Organization shall explain their reasoning for disputing the action item in their response and provide to staff. Then staff shall submit the disputed item(s) to the APC for review to determine whether to concur with the ACE organization’s claims. Staff shall prepare a letter outlining the APC’s ruling and submit it to the ACE Organization within fifteen (15) days after the APC finalizes its ruling.

- G. The ACE Organization must comply with the final APC final ruling to ensure accreditation. Staff shall enforce all APC requirements and report successful implementation to the APC prior to grant of licensure.

6.7 Maintaining Licensure

The ACE Organization shall pay all applicable fees in accordance with the NFRC 704, including any fines which may be assessed under the NFRC Compliance Assurance and Monitoring Program, and shall otherwise have complied with all requirements of the CEAP and the license agreement. The ACE Organization's licensure shall be subject to suspension, revocation, or termination in accordance with the terms of the license agreement.

7. SUSPENSION AND REVOCATION OF CERTIFICATE OF APPROVAL

- A. Suspension or revocation of an ACE's Certificate of Approval shall be based solely on the judgment of the APC as determined by the evidence presented.
- B. If an ACE's certificate is suspended, the ACE shall not be permitted to issue label certificates until all corrective actions have been addressed and the suspension is withdrawn by the APC. A suspension shall result in having the suspended ACE removed from the list of approved ACEs until reinstated.
- C. If an ACE's certificate is revoked, the individual shall not be permitted to participate as an ACE in the NFRC program. The individual shall be permitted to reapply for qualification after one (1) calendar year from the date of the revocation. A revocation shall result in having the revoked ACE removed from the list of approved ACEs.

7.1 Grounds for Suspension of Certificate of Approval

- A. An ACE's approval may be suspended by the APC pursuant to any of the express provisions of the CEAP.
- B. No ACE shall accept any payment or consideration of any kind, from any person, in exchange for the ACE's issuing a bid report, label certificate, or CMA based performance rating that appears to meet or comply with NFRC CMA rating procedures when the rating was not conducted and reported according to CMA requirements.
- C. Any ACE who fails to participate in an NFRC sponsored ICEC evaluation shall be suspended until such time that the person

satisfactorily meets the conditions stipulated by the APC as stated in the Notice of Suspension.

- D. Any ACE who fails to attend any mandatory workshop per section 4.3.2 shall be suspended until such time that the ACE satisfactorily meets the conditions stipulated by the APC as stated in the Notice of Suspension.
- E. An ACE's approval may be suspended upon a determination by the APC that an ACE has acted in such a manner as to impair the objectivity or integrity of the CEAP or to harm the reputation of NFRC, including, but not limited to:
 - i. Submission of false information, or omission to submit any material information required to be submitted by the calculation entity, in connection with obtaining or maintaining approval;
 - ii. Knowingly or negligently issuing label certificates that fail to meet certification requirements;
 - iii. Misrepresentation by the ACE of their ACE qualification in general or with respect to any service offered by the ACE.
- D. A suspension may be appealed in accordance with the procedures set forth in Section 8. A suspension may be withdrawn by the APC, upon a determination by the APC that the specified deficiencies have been remedied.
- E. If an ACE's approval has been suspended and the ACE does not take corrective action sufficient to permit the NFRC to determine that deficiencies have been remedied within the 30-calendar days after the date of the notice of suspension, the APC shall issue a notice of revocation. The revocation may be appealed in accordance with the procedures set forth in Section 8.

7.2 Grounds for Revocation of Certificate of Approval

- A. An ACE's Certificate of Approval may be revoked by APC for any of the following circumstances:
 - i. Pursuant to the non-fulfillment of the provisions contained in the CEAP within the required time period;
 - ii. Upon expiration of an ACE's right to appeal a suspension of certification pursuant to Section 8.1;
 - iii. An ACE is suspended three (3) times in a twelve (12) month period;
 - iv. Upon a determination by the APC that an ACE has acted in such a manner as described in Section 7.1
- i. If staff identifies in two consecutive calculations or statistical audit reviews where an ACE has received two or more D

grades, the Certificate of Approval for the ACE may be revoked at the discretion of the APC.

a) If the Certificate of Approval is revoked, the individual may reapply for ACE qualification after one year from the date of revocation.

D. A revocation may be appealed in accordance with the procedures set forth in Section 8.

8. APPEALS PROCEDURES

Any action resulting from a denial, suspension, or revocation shall be maintained during the appeal process.

8.1 Appeals Procedure after Denial of Approval, Suspension, or Revocation of ACE Certificate of Approval or of Licensure of an ACE Organization

- A. An ACE individual or ACE Organization, as applicable, shall have the right, for a period of forty-five (45) calendar days after the date of issuance of an notice of denial, suspension, or revocation of an ACE Certificate of Approval, or denial, suspension, or revocation of licensure of the ACE organization, as the case may be, to appeal to the APC. The ACE individual or ACE Organization making an appeal under this section is referred to as the *Appellant*.
- B. In the event of a revocation following the expiration of the period to appeal a suspension, in the absence of an appeal having been taken, the Appellant shall have the right, at its election, for a period of fifteen (15) calendar days after the date of issuance of a notice of revocation, to appeal the revocation to the APC.
- C. In the event the APC issues a denial, suspension, or revocation, the Appellant shall have the right, at its election, for a period of fifteen (15) calendar days after the date of issuance of a notice of denial, suspension, or revocation, to appeal the denial, suspension, or revocation to the Board of Directors.
- D. An appeal, whether from a notice of denial, notice of suspension, or notice of revocation, shall be in writing and sent by certified mail or other method which provides evidence of delivery to the Chairperson of the APC or the Board of Directors, as the case may be, with a copy to staff, and shall specify the basis for the appeal.
- E. The Appellant may, upon giving notice of appeal, request a hearing in writing with:
- i. The APC in the case of a first appeal of a denial, suspension or revocation, or

- ii. The Board of Directors, in the case of an appeal of a denial, suspension or revocation ordered by the APC.
- F. In such an event, the APC or the Board of Directors shall, not later than seven (7) calendar days after the filing of the notice of appeal, notify the Appellant of the date of the hearing, which shall be held expeditiously, but not later than thirty (30) calendar days after the receipt of the notice of appeal.
- G. Not later than fourteen (14) calendar days prior to the hearing, staff shall file with the APC, or the APC shall file with the Board of Directors, as the case may be, with a copy to the Appellant, all written information and electronic data on which the denial, suspension or revocation was based. The Appellant may file such evidence as the Appellant believes will assist the APC or the Board of Directors in making its determination.
- H. At the hearing, one staff member and at least one member of the APC will sponsor the information described in Section 8.1.G. and will explain the denial, suspension, or revocation decision. The Appellant may, but is not required to, be represented by legal counsel and to present evidence and witnesses on their behalf. Either party may cross-examine witnesses of the other party.
- I. Not later than thirty (30) calendar days after the hearing, the APC or the Board of Directors, as the case may be, shall issue a written decision on behalf of NFRC. The decision shall be based solely on the record described in Section 8.1.G and Section 8.1.H. Except as otherwise permitted under the appeals procedures set forth in this section or under state law, the decision of the APC or the Board of Directors is final and binding.
- J. In any decision made by either the APC or the Board of Directors, any individual who has any financial, family or organizational affiliation with the Appellant or with an entity or person, which operates in direct competition with the Appellant, shall not participate in a determination of that body regarding the Appellant.

9. REFERENCED DOCUMENTS

- 1) ANSI/NFRC 100: *Procedure for Determining Fenestration Product U-factors*. National Fenestration Rating Council, Inc.: Greenbelt, MD; 2017. www.nfrc.org.
- 2) ANSI/NFRC 200: *Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence*. National Fenestration Rating Council, Inc.: Greenbelt, MD; 2017. www.nfrc.org
- 3) NFRC 700: *Product Certification Program*: National Fenestration Rating Council, Inc.: Greenbelt, MD; 2017. www.nfrc.org
- 4) NFRC 701: *Laboratory Accreditation Program Document*: National Fenestration Rating Council, Inc.: Greenbelt, MD; 2017. www.nfrc.org
- 5) NFRC 702: *Certification Agency Program*: National Fenestration Rating Council, Inc.: Greenbelt, MD; 2017. www.nfrc.org
- 6) NFRC 704: *Fee Schedule for NFRC 700 Product Certification Program (PCP), NFRC 701 Laboratory Accreditation Program (LAP), NFRC 702 Certification Agency Program (CAP), NFRC 705 Component Modeling Approach (CMA), NFRC 706 Participation in IG Certification Program, and NFRC 708 Calculation Entity Approval Program (CEAP)*: National Fenestration Rating Council, Inc.: Greenbelt, MD; 2017. www.nfrc.org
- 7) NFRC 705: *Component Modeling Approach - Product Certification Program*: National Fenestration Rating Council, Inc.: Greenbelt, MD; 2017. www.nfrc.org
- 8) NFRC 707: *Compliance and Monitoring Program Manual*: National Fenestration Rating Council, Inc.: Greenbelt, MD; 2017. www.nfrc.org