



**AERC 400**  
**Certification Policies and Procedures**

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## 1. Purpose and Scope of the AERC 400 Certification Policies and Procedures Document

- a. Purpose - The purpose of the *AERC 400 Certification Policies and Procedures* document is to set specific policy statements and program definitions in alignment with program documents. This document clarifies *Program Requirements* and is the central resource for program definitions and acronyms.

The structure of the documents that comprise the totality of program requirements of *AERC 100 National Standard for Rating the Thermal Performance of Fenestration Attachments* is as follows:

- i. *AERC 100* is the master document referencing all *Program Requirements* including all program subdocuments, appendices and annexes.
  - (1) *AERC 1 Procedures for Determining Energy Performance Properties of Fenestration Attachments*
  - (2) *AERC 1.1 Procedures for Determining the Optical and Thermal Properties of Window Attachment Materials*
  - (3) *AERC 1.2 Physical Test Methods for Measuring Energy Performance Properties of Fenestration Attachments*
  - (4) *AERC 1.3 Product Simulation Manual*
  - (5) *AERC 2 Procedures for Determining Heating and Cooling Annual Energy Performance Ratings of Fenestration Attachments*
  - (6) *AERC 300 Manufacturer Participant Guidelines*
  - (7) *AERC 301 Independent Inspection Agency Program Requirements*
  - (8) *AERC 302 Accepted Calculation Entity/Accepted Simulator Program Requirements*
  - (9) *AERC 400 Certification Policies and Procedures*
- b. Scope - The operating policies and procedures delineated within this document are supplemental to the articles of incorporation and the bylaws. The scope is defined by the outline of subjects herein. Any area of program governance not specifically addressed herein is referenced within the *AERC 100* and is fully enumerated in references across the expanse of program documents.

## 2. Appendices

Appendices attached to this document define in more granular detail circumstances, processes and procedures of the area of interest enumerated therein. Appendices to this document include the following:

- (1) Appendix A – Definitions & Acronyms
- (2) Appendix B – Program Forms
- (3) Appendix C – Program Interpretations
- (4) Appendix D – Challenges to Substrate Materials and Attachment Product Ratings

- (5) Appendix E – Appeals, Rights and Procedures
- (6) Appendix F – Program Fees
- (7) Appendix G – Currently Accepted Software
- (8) Appendix H – Surveillance Testing Protocols and Processes
- (9) Appendix I – Reporting Requirements and Process

### **3. Conflicts**

In the event of a conflict between these operating policies and the *AERC* Bylaws, the Bylaws will govern.

### **4. Authority of the Administrator**

The grant of authority to the *Administrator* shall be by a vote of the majority of a quorum of the *Board of Directors* affirming a written document specifying the scope of authority granted over the day-to-day operations of *AERC* product certification program.

### **5. Interpretations, Challenges and Appeals**

Detailed provisions regarding the procedures surrounding *Interpretations*, *Challenges* and *Appeals* are found in the sections referenced below.

- a. *Program Interpretations* - Any person or legal entity may seek the issuance of a *Program Interpretation* regarding any technical or administrative provision embodied in the *AERC* product certification program. Any such request shall be governed by the provisions of *Appendix C*.
- b. *Challenges* - Any person or legal entity may challenge the component data associated with any entry in the *Complex Glazing Database* or the ratings associated with any *AERC Attachment Product Listing(s)*. Challenges will be conducted in accordance with the provisions of *Appendix D*. Decisions negatively affecting the status of materials and components are subject to appeal. Appeals are handled in accordance with *Appendix E* subsequent to the issuance of a decision on a challenge.
- c. *Appeals* - Participants in the *AERC* product certification program have the right to appeal any decision or determination, administrative or technical, relating to that participant's status of participation if it negatively affects that participant's interests. Appeals will be conducted in accordance with the provisions of *Appendix E*.

### **6. AERC Program Document Review and Revision**

Adoption of and revision to *AERC 100* and all program requirement documents referenced therein, shall conform to the currently adopted version of the "ANSI Essential Requirements: Due Process for American National Standards," Annex B.

- a. Standard Review Cycle - The *AERC 100* shall be maintained on a schedule providing review and potential revision no less often than every five calendar years from initial date of adoption, or from the last non-cycle review at which any change to the standard was recommended and adopted. The *Board of Directors*, upon a motion from a member then in good standing, seconded by the same, or upon a motion made by a member of the *Board of Directors*, seconded by the same, may institute any non-cycle review upon the vote of a majority of a quorum of the *Board of Directors*.
- b. Modification of Appendices/Annexes - The *Board of Directors* may, at its discretion, modify any program appendix and/or annex, upon a motion from a member then in good standing, seconded by the same, or upon a motion made by a member of the *Board of Directors* and seconded by the same. Such modifications may occur only on a vote of a majority of a quorum of the *Board of Directors*. Upon a successful vote to modify any of the appendices or annexes of the program, the modification shall be published to the membership, whom, upon a petition of the then members in good standing, may demand a recall vote by the membership by email or by paper ballot. The rule of petition shall be devised by the *Administrator* and published to the members in the notice announcing the change. Said recall vote shall be scheduled and held within 45 days upon certification by the *Administrator* that the petition has reached the necessary threshold for a recall vote. The recall vote shall be held in accordance with a rule developed by the *Administrator*.
- c. The threshold for recall shall be 60% of the full membership in good standing on the first day of balloting on the recall petition.
- d. Implementation of any modification referenced therein, which is the subject of a recall petition vote, shall be delayed until the recall vote results have been received and certified by the *Administrator*. The *Administrator* shall have 15 days to review ballots and must certify the result to the *Board* by the close of business 15 days after the date on which ballots were due.

## 7. General Product Certification Process

- a. A manufacturer of attachment products engages an *Accepted Calculation Entity* to create the documentation required to establish conformity of the manufacturer's products to the *AERC Product Certification Program*.
- b. An *Accepted Simulator* will perform program simulations of *Primary Listing* product configurations under the direct supervision of an *Accepted Calculation Entity*. All simulation services will be conducted in accordance with all *Program Requirements*, utilizing only *AERC* approved software.
- c. Using those simulations, the *Accepted Simulator* will consult with the client to determine which products to submit for listing in the *CPD*. In instances in which the optional physical test method is employed, the test lab will apply grouping rules and direct the specifics of the test sample that will be tested in accordance with *AERC 1.2 Physical Test Methods for Measuring Energy Performance Properties of Fenestration Attachments*.
- d. The *Accepted Calculation Entity (ACE)* will prepare all certification documents, including a signed *Certified Product Listing Report (CPLR)* and *Certified Product Database* upload files to forward to the *Administrator*. *CPLRs* shall include *Secondary Listings* derived from the *Primary Listings*.

- e. The *Administrator* will review the results and certification documentation and determine if the documentation complies with the submission requirements or direct the documentation back to the *ACE* for further processing.
- f. The *Administrator* will forward the *CPLR* to the *Independent Validator* for review, or conduct a validation review by *Administrator* staff. The *Administrator* staff appointed for validation review or the *Independent Validator* will conduct a review of the work product of the *ACE* and issue a signed *Validation Report* if the totality of the documentation establishes that all products contained in the *CPLR* comply with *Program Requirements* for listing. If they do not, the *Independent Validator* will return the package documents to the *Administrator* to send back to the *Accepted Calculation Entity* noting problematic items.
- g. Once the *Administrator* is satisfied the documentation establishes the products meet all certification requirements, the *Administrator* will upload the listings to the *Certified Products Database* and issue the *Authorization Agreement* to the manufacturer to authorize it to commence labeling its products in accordance with all *Program Requirements*.
- h. Upon acceptance into the *AERC Product Certification Program*, all program participants noted herein must agree to participate in a verification testing or inspection process designed to oversee their continuing compliance in accordance with applicable program requirements.

## 8. Participation Procedures

- a. *Manufacturer Participants* - Firms wishing to have products certified by the *AERC* shall make their applications using the required forms specified by the *Administrator*. All product certification applications will be processed in accordance with the procedures delineated in the *AERC 300 Manufacturer Participant Program Requirements*.
- b. *Independent Inspection Agency* - Firms wishing to apply as an *Independent Inspection Agency* shall make their applications using the required forms specified by the *Administrator*. All applications will be processed in accordance with the *AERC 301 Independent Inspection Agency Program Requirements*.
- c. *Accepted Simulators and Accepted Calculation Entities* - Firms wishing to apply as *Accepted Simulators and Accepted Calculation Entities* shall make their applications using the required forms specified by the *Administrator*. All applications will be processed in accordance with the *AERC 302 Accepted Calculation Entity/Accepted Simulator Program Requirements*.

## 9. Independent Validator

- a. An *Independent Validator* performs all technical processes to validate the submitted work product of *Accepted Calculation Entities*. To be considered for appointment as an *Independent Validator*, the entity must meet the following minimum qualifications:
  - i. Have at least one employee with at least five years of experience conducting simulation of fenestration products as a certified RESNET Rater, NFRC-accredited simulator, or Passivehaus US listed Simulator.
  - ii. Have at least one *Corporate Responsible-in-Charge* holding registration as a professional engineer issued by one of the United States or possessing a bachelor's degree in an engineering discipline.

The AERC, through its *Administrator*, may perform the validation function in-house when business imperatives deem it appropriate.

## 10. Terms of the Appointment of an Independent Validator

- a. Any entity appointed to the position of *Independent Validator* shall be required to sign a non-disclosure agreement with AERC requiring confidentiality in all matters of his or her performance of the tasks involved in validation of submitted work product. Additionally, he or she must agree to abide by the requirements of ISO 17065 regarding confidentiality and conflicts of interest.
- b. For the entire period of the appointment, and for a period, determined by the *Board* to be sufficient to its intention, after the expiration or termination of his or her appointment as an *Independent Validator*, the entity appointed to this purpose is precluded from participation in the AERC product certification program in the capacity of an *Accepted Calculation Entity* or *Accepted Simulator*.
- c. The term of appointment of an *Independent Validator* shall extend for a period of two years from the date of appointment by the *Board of Directors*. Said appointments shall be governed by a written agreement outlining all relevant terms of the agreement between the *Independent Validator* and the AERC as determined by the *Board of Directors*.
- d. The appointment of an *Independent Validator* may be terminated by a majority vote of the full *Board of Directors* upon a showing of cause through a breach of the program requirements by the *Independent Validator*, or voluntarily, by the *Independent Validator* upon their resignation with a 90-day notice period.

## 11. Term of Certification

The term of certification of *Substrate Material Listings* in the CGDB is defined in AERC 1.1.

The term of certification of *Attachment Products* accepted into the *Certified Product Database* shall be four years from the date of acceptance of the *Authorization Agreement* issued in accepting the initial certified products. Additions and revisions to the *Manufacturer Participant's* existing *Listings* submitted subsequent to the initial date of acceptance into the program shall not alter this date.

Extension of the certification for an additional four-year term may be granted upon affirmation by the manufacturer, submitted in complete form no less than 45 calendar days prior to the expiration of the certified product listing(s) in question. Affirmations shall attest that there have been no changes to the *Attachment Product's Substrate Material, Components, or raw materials*. If any simulation input has changed, the *Attachment Product* shall be re-simulated in accordance with *Program Requirements* and the new simulation shall be submitted to the *Administrator*. If the new simulation results in any change to *EPC, EPh, EPC-Auto, or EPh-Auto* the listing owner shall be required to submit a revision to their listing to reflect the changes to the product and the attendant ratings.

The *Administrator* may extend the current certification period up to 30 days after the date of expiration for additional review, provided the *Manufacturer Participant* submitted the *Renewal Application* at least 45 days prior to expiration of the current certification.

## 12. Waiver of Recertification

*Manufacturer Participants* desiring to make changes to certified products must submit detailed descriptions of the changes to the *Administrator* in advance of implementing any such change.

Provided a review of the changes by the *Administrator* reveals the changes to be of a nature not expected to affect the rating by more than +/- 2.5 for *EPC*, *EPh*, *EPC-Auto*, and *EPh-Auto* or to be excluded from the scope of the *Program Requirements*, the *Administrator* will issue a Waiver of Recertification and issue instructions for making changes to documentation if required. In this case, no changes to the *Listing* or ratings will be required at the time the product change is made; however, the product will be required to be re-simulated and the listing owner shall be required to submit a revision to their listing to reflect the changes to the product and the attendant ratings prior to the start of a new four-year term.

If a review by the *Administrator* reveals a substantive and material change having the potential to affect the rating for one or more of *EPC*, *EPh*, *EPC-Auto*, and *EPh-Auto* by more than +/- 2.5, the *Administrator* will issue instructions to inform and guide the process for verifying the impact to the ratings and producing any work product to affect a revision to the product rating to be accomplished prior to implementation of the change.

Product changes due to a difference in the original *Substrate Material* shall be addressed using the following process:

- a. Determine the effect on *EPC*, *EPh*, *EPC-Auto*, and *EPh-Auto*
  - i. If the *Substrate Material* that is changing is a *Material Group Member*, the new LAB numbers of the modified *Substrate Material* must be reported and used in conjunction with the properties of the *Material Group Representative* to calculate its material properties. After a review of the updated properties, the *Administrator* may require that the *Attachment Product* be re-simulated to determine the effect on *EPC*, *EPh*, *EPC-Auto*, and *EPh-Auto*.
  - ii. If the *Substrate Material* that is changing is a *Material Group Representative*, the *Substrate Material* will need to be fully tested again to generate accurate properties which must be used in a re-simulation of the *Attachment Product* to determine the effect on *EPC*, *EPh*, *EPC-Auto*, and *EPh-Auto*.
- b. If the effect on one or more of *EPC*, *EPh*, *EPC-Auto*, and *EPh-Auto* is greater than +/- 2.5, the values of the *Attachment Product Listing* will be revised in the *CPD* at that time. If the effect is within +/- 2.5 for *EPC*, *EPh*, *EPC-Auto*, and *EPh-Auto*, then the ratings may remain unchanged until the end of the term of certification, at which time they must be revised.

Product changes that may be necessitated by the disruption of the supply chain for the *Substrate Material* will not affect the current inventory that may exist for the product that is already labeled. In the event the change is expected to result in a material impact to the rating (more than +/- 2.5 for one or more of *EPC*, *EPh*, *EPC-Auto*, and *EPh-Auto*), the *Administrator* may order the temporary cessation of labeling of product not then labeled until the issue can be resolved. If the product is in a *Group*, only the *Product Group Leader* must be re-simulated. For changes to *Product Group Members*, the *Administrator* shall review the *Product Group Leader* for changes in accordance with this section, and also review



whether the changes cause any *Product Group Members* to no longer fall within the *Group*. The resulting action determined by the *Administrator* shall apply to all *Attachment Products* within the *Group*, except individual *Product Group Members* that no longer fall within the existing product group shall be either simulated and rated as individually or included in another *Group* as applicable.

### **13. Certifications and Software Concurrency**

Product qualification simulations may be conducted using only the current AERC-adopted version of software. If changes to the AERC-adopted version of the software or to the simulation procedures specified in the *Program Requirements* occur, the *Board of Directors* shall have the authority to determine whether the owner of a *Listing* shall be required to re-simulate their *Attachment Product* and submit a revision to their *Listing* to reflect the changes to the *Attachment Product* and its ratings at that time, or if the then-current *Listing* and ratings shall be allowed to remain in effect until the end of the *Listing's* current term of certification.

### **14. Secondary Listings**

Each *Secondary Listing* is founded on a *Primary Listing* that is the property of the *Primary Manufacturer*. *Secondary Listings* shall be governed by the AERC *Secondary Listing Agreements* drawn between the *Primary Listing* owner (*Primary Manufacturer*) and the holder of the *Secondary Listing* (*Secondary Manufacturer* or *Business Unit/ Sub-Brand*). Participants must submit the required form specified by the *Administrator*, which includes acknowledgment of the responsibilities of each party to AERC on the AERC *Secondary Listing Agreement*. Because of the special, conjoined status of a *Secondary Listing*, AERC requires the following:

- a. The *Secondary Manufacturer* or *Business Unit/ Sub-Brand* is to be treated as a separate *Manufacturer Participant* for listing purposes and the status of the *Listings* is authorized to be communicated to the *Primary Manufacturer*. Inclusion of the *Secondary Listings* is dependent on submission of a *Manufacturer Participant* application and payment of all applicable fees per *Program Requirements* and continued compliance with all program documents. *Secondary Manufacturers* and *Business Units/ Sub-Brands* are required to apply as participants in the AERC product certification program, subject to the specific exclusions and terms delineated in the *Secondary Listing Agreement*. *Secondary Manufacturers* shall not be subject to *Inspections* unless and until they enter into any process in which they take possession of the product and label it at a point different from the point of final assembly and packaging, or modify any characteristic of the product other than trimming height and width.
- b. *Certified Product Listing Reports* for *Secondary Listings* are to include the relevant executed AERC *Secondary Listing Agreement(s)*.
- c. The *Listings* of the *Secondary Manufacturer* or *Business Unit/ Sub-Brand* are predicated on and subject to the status of the underlying *Primary Listing*. They are subject to removal in the event of an expiration or termination of the *Primary Listing*, for whatever reason.
- d. All disciplinary actions imposed on the *Primary Manufacturer Participant* shall be communicated to the *Secondary Manufacturer* by the *Administrator*. Once any *Listing* governed by the existence of a registered *Secondary Listing Agreement* enters a status of *Non-Compliance*, the *Administrator* shall copy the affected *Secondary Manufacturer* on all communications regarding

the status of the affected products until the status of *Non-Compliance* is remedied.

- e. Only the *Primary Manufacturer* who owns the *Primary Listing* has the right to appeal. *Secondary Manufacturers* do not have the right to appeal. *Secondary Listings* are subservient to the *Primary Listings* from which they are derived and acquire no rights other than those enumerated in the *Program Requirements* and as limited therein. The *Secondary Manufacturer* has only the right to display a label with a different CPD Number and its company name on the product in place of the name of the holder of the *Primary Listing*. *Secondary Manufacturers* rights are limited to those enumerated herein or in the *Authorization Agreement* or *Secondary Listing Agreement*.

## 15. Protecting the Marks of the AERC

For the specific intention of protecting the marks of the AERC, as delineated in the AERC Label & Logo Requirements for Use and the *Authorization Agreement*, no party may invoke the name or marks of the AERC:

- a. In any literature, test report, or web communication for any purpose other than to convey membership in the organization.
- b. In any context other than certifying and labeling products that have been submitted and accepted for inclusion in the *Certified Products Database*.
- c. No entity, whether a member of the AERC or not, may invoke the name or marks of the AERC in any manner implying an endorsement of any of the products of that entity or any others.
- d. No entity, whether a member of the AERC or not, may invoke the name or marks of the AERC in any manner implying conformance to the AERC product certification requirements of a specific product, unless that specific product is then currently listed as “active” in the *AERC Certified Products Database*.
- e. No testing laboratory may incorporate the name or marks of the AERC in any test report other than to specify any AERC protocol utilized in the test occurrence.
- f. *Manufacturer Participants* who have submitted products for listing in the *Certified Products Database* may proclaim only those products officially accepted for listing in the CPD, and under an existing, current, accepted *Certified Product Listing Report*, as “certified” products meeting the requirements of the AERC product certification program. Any written, oral, or electronic use of the AERC name or marks, in any of its derivations, not in conformance with the requirements of this clause or any other relevant clause of the *Program Requirements*, is strictly prohibited. *Participants* may not utilize the marks of the AERC in any manner that intentionally or unintentionally conveys a status of “certification” unless all items associated in that manner are indeed currently listed in the *Certified Products Database* as “active” listings. Only the ratings contained in the CPD may be proclaimed in association with any act of labeling or certification.

## 16. ANSI Essential Requirements

- a. AERC Patent Policy - The AERC official policy on incorporating United States issued patents into the AERC program requirements shall be in conformance with applicable provisions of the then-current version of “ANSI Essential Requirements: Due Process Requirements for American

National Standards”.

- b. AERC Antitrust Policy - The AERC official policy regarding anti-trust provisions of Federal and State law is to be in conformance with applicable provisions of the current version of “ANSI Essential Requirements: Due Process Requirements for American National Standards”.

## 17. Policy on Inspections and Verification Sample Testing

It is the policy of the AERC to conduct regular *Verification Testing* and *Inspections* on manufacturing locations producing products certified under the AERC product certification program requirements, *Accepted Calculation Entities*, and *Accepted Independent Inspection Agencies* participating in the program. Such policies are informed and governed by the requirements of the AERC product certification program and referenced standards.

- a. Inspection of Manufacturing Facilities - As a condition of participation, *Type 3 Manufacturer Participants* shall be subject to *Inspections* as provided by the clauses below, but not limited by them:
  - i. Frequency – *Type 3 Manufacturer Program Participants* shall be inspected, at minimum, once annually at each location that manufactures, packages, and labels products that are certified in the AERC program.
  - ii. Scope – The scope of inspections will extend across all relevant manufacturing operations in which certified products are being manufactured. The *Inspector* will review product documentation and quality assurance operations and documents for all products accepted and listed in the *Certified Products Database* or for which an application for listing in the *Certified Products Database* has been submitted.
  - iii. Inspection Report – Upon the completion of the inspection, the *Inspector* shall deliver a signed copy to the representative of the *Manufacturer Program Participant* on the day of the inspection. The participant’s representative shall countersign the report acknowledging receipt the day of the inspection. This shall constitute the inspection report. *Variances* to compliance identified during the inspection shall be summarized and left with the participant. Upon review by the *Administrator*, additional *Variances* to compliance may be attached to that inspection report. *Variances* to compliance shall require a plan of resolution to bring the participant back into compliance. All *Variances* to compliance with the AERC product certification program shall be summarized in writing by the *Administrator* and issued to the *Manufacturer Program Participant* with instructions on resolving the *Variances*. *Variance* resolutions carry a deadline of 15 calendar days from receipt, but may be extended by the *Administrator* to facilitate additional material production, testing or analysis of the submitted response.
- b. *Verification Testing of CPD Listings* - As a condition of participation, the *Listings of Manufacturer Participants* shall be subject to *Verification Testing* as provided by the clauses below, but not limited by them:
  - i. Frequency and Sample Size
    - (1) *Type 2 Manufacturer Participants* – Twice annually, the *Administrator* will conduct *Verification Testing* on a set of samples each procured from the open market, in the

blind. Each cycle may include up to eight samples.

- (2) *Type 3 Manufacturer Participants* – Products that are certified in the AERC program are subject to *Verification Testing* on two samples annually of products selected during their annual in-plant *Inspections*.
  - (3) *Scope* – The scope of *Verification Testing of CPD Listings* will extend to confirmation of product characteristics for any and all *Attachment Products* listed in the *CPD* against the characteristics with which they were originally *Accepted* into the *CPD*, as well as the performance characteristics of the *Substrate Material* listed in the *CGDB*. Appendix H describes the process and protocols for *Verification Testing*.
  - (4) *Verification Testing Reports* – Upon the completion of *Verification Testing*, the *Administrator* shall deliver a signed document stating the results and any actions that will be taken as a result of the *Verification Testing*.
- c. *Inspection Of Accepted Calculation Entities* - As a condition of participation, *Accepted Calculation Entities* shall be subject to *Inspections* as provided by the clauses below, but not limited by them:
- i. *Frequency* – *Accepted Calculation Entities* shall be inspected, at minimum, once annually in each location enrolled in the AERC program.
  - ii. *Scope* – The scope of inspections will extend across all operations — simulation documentation, record storage and retrieval, and work product quality. *Inspection* may be desktop based over an Internet connection or onsite, at the sole discretion of the *Administrator*. The *Inspection* will include, but is not limited to, review of quality assurance documentation, simulations and models, *Certified Product Listing Reports*, internal audits and employee qualification and training records.
  - iii. *Inspection Testing* – May be conducted at the discretion of the *Administrator* as a method of verifying the competence and currency of the equipment, training, and skills of the *Accepted Calculation Entity*.
  - iv. *Inspection Reports* – Upon the completion of the *Inspection*, the *Inspector* shall deliver a signed copy to the representative of the participant the day of the *Inspection*. The participant’s representative shall countersign the report acknowledging receipt the same day. This shall constitute the inspection report. *Variances* to compliance identified during the *Inspection* shall be summarized and left with the participant. Upon review by the *Administrator*, additional *Variances* to compliance may be attached to that inspection report. All *Variances* to compliance with the AERC product certification program shall be summarized in writing by the *Administrator* and issued to the *Participant* with instructions on what is required to resolve the *Variances*. *Variance* resolutions carry a deadline of 15 calendar days from receipt, but may be extended by the *Administrator* to facilitate additional material production, testing or analysis of the submitted response.
- d. *Inspection of Independent Inspection Agencies* - As a condition of participation, *Independent Inspection Agencies* shall be subject to *Inspections* as provided by the clauses below, but not limited by them:

- i. Frequency – *Independent Inspection Agencies* shall be inspected, at minimum, once annually in each location enrolled in the AERC program.
- ii. Scope – The scope of the inspection will extend across all operations — process documentation, record storage and retrieval, and work product quality. *Inspection* may be desktop based over an Internet connection or onsite, at the sole discretion of the *Administrator*. The inspection will include, but is not limited to, review of quality assurance documentation, the inspection operations manual and employee training records.
- iii. Inspection Testing – May be conducted at the discretion of the *Administrator* as a method of verifying the competence and currency of the processes, documentation, training and skills of the *Independent Inspection Agency* and its employees.
- iv. Inspection Reports – Upon the completion of the Inspection, the *Inspector* shall deliver a signed copy to the representative of the participant the day of the inspection. The participant’s representative shall countersign the report acknowledging receipt the same day. This shall constitute the inspection report. *Variances* to compliance identified during the inspection shall be summarized and left with the participant. Upon review by the *Administrator*, additional *Variances* to compliance may be attached to that inspection report. *Variances* to compliance shall require a plan of resolution to bring the participant back into compliance. All *Variances* to compliance with the AERC product certification program shall be summarized in writing by the *Administrator*, and issued to the participant with instructions on what is required to resolve the *Variances*. *Variance* resolutions carry a deadline of 15 calendar days from receipt, but may be extended by the *Administrator* to facilitate additional material production, testing or analysis of the submitted response.
- e. Existing *Independent Inspection Agency* - If a *Participant’s* current quality assurance agency is not an *Accepted Independent Inspection Agency* and the agency declines to participate, the *Participant* shall be required to engage the services of a second agency, or the *Administrator*, to perform the *Inspections* required to meet the requirements for its participation in the program. It may retain its current *Independent Inspection Agency* to perform this service for AERC compliance, provided the current inspection agency applies and has been accepted according to the requirements of AERC 301.

## Appendix A – Definitions & Acronyms

### Definitions

**Acceptance:** A status indicating a *Program Participant*, functioning as an *Accepted Simulator*, an *Accepted Calculation Entity*, or an *Accepted Independent Inspection Agency* that has been authorized to provide services to *Program Participants* in connection with product certification applications. In the context of a product for which a *Manufacturer Participant* has applied to be listed in the *Certified Products Database*, the product has been "accepted" for inclusion as a certified product and may be labeled as complying with all *AERC* program requirements.

**Accepted Calculation Entity (ACE):** An entity that carries legal responsibility for conducting simulation, modeling, and verification services to *Manufacturer Participants* in pursuit of acceptance of products into the *AERC Certified Products Database*.

**Accepted Independent Inspection Agency (IIA):** An organization, functioning as an independent, third-party inspection agency accepted under *AERC* program requirements to provide inspection services for *Manufacturer Participants* or *Accepted Calculation Entities* that are authorized under *Program Requirements as Program Participants*.

**Accepted Participant:** Is one of the several categories of applicants who have achieved the status of fully qualified and admitted as a participant by the *AERC* under the provisions of the governing documents.

**Accepted Simulator (AS):** An individual who has the proven training, skills, and experience qualifying them to perform simulation and calculation services under the direct supervision of an *Accepted Calculation Entity* in evaluating product configurations seeking qualification under the program requirements using *AERC* approved tools, protocols and requirements.

**Accredited Testing Laboratory:** An independent, third-party laboratory, accredited by an agency under the requirements of ISO 17025, to include in its scope of accreditation the referenced standards and protocols applicable to acceptance of products into the *AERC Certified Products Database*.

**Active Status (Manufacturer):** A manufacturer with at least one product accepted for inclusion into the *Certified Products Database* and has not expired or that has not been removed for cause. The actual period of active status extends to the end of the calendar year in which participation fees were paid unless terminated or suspended for disciplinary reasons or at the request of the participant.

**Active Status (Other Participants):** Other participants are "active status" as long as they are operating under an *Authorization Agreement* in effect that has not been terminated for cause or expiration of the term of acceptance. The actual period of active status extends to the end of the calendar year in which participation fees were paid unless terminated or suspended for disciplinary reasons or at the request of the participant.

**Administrator:** The entity designated as the appointed agent of the *AERC* to manage *Program Participants'* compliance with the standards herein and ensure that each participant's products or services conform to the program requirements.

**Automation:** The use of any of the following: sensors, real-time weather data, schedules, programs, or algorithms to open, close, reposition, or change optical properties of an attachment product without direct human interaction.

**AERC Automation Rating:** Optional rating for window attachment products that can be operated using an automated control system with minimum capabilities as described in the AERC Automation definition. Products are rated according to the schedules defined in AERC 2 Appendix A respective of the attachment type and interior or exterior end use application.

**AERC Logo:** The registered service mark of the *Attachments Energy Rating Council* (AERC) consisting of the stylized initials “AERC” appearing to the right of an image of a window in purple with a green and blue square on each side and “Attachments Energy Rating Council” text at the top.

**Air Leakage (AL):** A measure of the rate of air passing through a material or assembly in the presence of an applied pressure difference, expressed in units of cfm/ft<sup>2</sup> (L/s/m<sup>2</sup>). **Appeal Bond:** A payment to the AERC, required of an *Appellant* in advance, to secure the obligations of the *Appellant* should their appeal not prevail.

**Appeals Board:** Three or more members of the *Board of Directors* from across the spectrum of interests in the AERC membership appointed for the specific purpose of hearing testimony and evidence in a *Program Participant’s* appeal procedure and then rendering a ruling.

**Appellant:** A *Program Participant* who has filed to appeal some aspect of the AERC product certification program that impairs their ability to participate.

**Applicant:** An individual or entity who has submitted an application to participate in the AERC product certification program as a *Manufacturer Participant, Independent Inspection Agency, Accepted Simulator* or *Accepted Calculation Entity*. Once the *Applicant* has complied with all requirements of the application and paid all participation fees, they become a participant in the class of participation in which they have applied.

**Application:** A series of documents and supporting evidence that communicates interest in and qualifications for a particular class of participation in the AERC product certification program.

**Attachment Product:** An assembled fenestration covering product, as defined in *AERC 100*, attached to fenestration, or attached to or near the perimeter of the inner or outer wall surrounding fenestration.

**Authorization Agreement:** Specific document, under *Program Requirements*, outlining the terms of participation by *Program Participants* and the roles and responsibilities of the parties to the agreement. Individual *Authorization Agreements* also attach to each *CPLR* to cover the products on a *CPLR* authorized for listing in the *CPD*.

**Board:** The Board of Directors of the AERC.

**Board of Directors:** The full board of the Attachments Energy Rating Council as defined in the currently accepted bylaws.

**Business Unit/ Sub-Brand:** A manufacturing facility where *Attachment Products* are assembled, that is owned by the *Primary Manufacturer*. These products have their own branding, and the Business Unit obtains a *Secondary Listing* from the *Primary Manufacturer*. The *Primary Manufacturer* assumes

responsibility for *Verification Testing* for the manufacturing facilities at which their products are assembled.

**Calculation Entity:** A legal organization that acts as the responsible party in developing the objective evidence of qualification, used to evaluate and establish the eligibility of *Attachment Products* for listing under *Program Requirements*.

**Certification:** The acts, undertaken by the *Manufacturer Participant*, in certification of the ratings of their products under the specific *Authorization Agreement* of the AERC issued to empower the participant to that purpose. Participants “certify” to the strict terms and responsibilities of the *Authorization Agreement* issued to them.

**Certified Product:** A product that has been designated by the manufacturer as complying with all relevant program requirements as specifically evidenced by a *Certified Product Listing Report* and its *Authorization Agreement*.

**Certified Product Database:** A database, accessible to the public, listing all products accepted by the AERC as conforming to *Program Requirements*.

**Certified Product Listing Group:** A grouping, per *AERC Program Requirements*, for establishing aggregate groupings of *Attachment Products* assigned the same ratings.

**Certified Product Listing Report (CPLR):** A certified report, created by an *Accepted Calculation Entity*, validated by the *Independent Validator*, and accepted by the *Administrator* that encompasses all products and derivations of products, including discrete fabrics, colors, installation methods and conditions, composing the whole of certified products to be submitted by a manufacturer for inclusion in the *AERC CPD*.

**Challenge:** A motion brought forth to question and assess the values assigned to any individual *Substrate Material* or *Attachment Product* rating(s).

**Challenge Board:** A group of three members of the Technical Committee of the AERC with experience and training qualifying them to hear *Challenges*. This group is appointed by the Technical Committee.

**Complex Glazing Database (CGDB):** Data store of critical components storing the critical thermal and optical properties utilized by the approved software to calculate the ratings for *EPc* and *EPH*, along with Solar Heat Gain Coefficient (SHGC), U-factor and Visible Transmittance (VT).

**Component:** Any discrete item of hardware or *Substrate Material* incorporated into the final assembly of an *Attachment Product*.

**Component Manufacturer:** An entity that manufactures some critical *Component(s)*, as specified by program documents and procedures.

**Conformance:** The state of proven equivalence, as documented by AERC program specific documentation, establishing that the participant and all the products and/or services for which the participant is seeking acceptance meet or exceed all the program requirements and standards established in the *Program Requirements*, for the specific area of participation to which they have applied to participate.



**Conformity Assessment:** A process conducted by an independent third party to assess the compliance of an entity with their obligations under some program of governance.

**Consensus:** The state of substantial agreement by directly and materially affected interests. This signifies the concurrence of more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that an effort be made toward their resolution.

**Corporate Parent Location:** The single location declared by the *Program Participant* to comprise the headquarters of the enrolling entity.

**Corporate Responsible-in-Charge:** A designated individual, empowered to act in reference to a specific scope of authority, by an entity participating in the *AERC Product Certification Program*.

**CPD Number:** A discrete number assigned by the *Administrator* to an individual *Listing* in the *Certified Products Database*.

**Custom Retail Packaging:** Packaging designed to encapsulate *Attachment Products* ordered and produced for a specific opening.

**Day or Days:** In measuring time in the context of *Program Requirements*, refers to calendar and not business days unless otherwise specified.

**Day of Balloting:** The date on which receipt of ballots closes. The definitive cut-off time for ballot submission shall be 5:00 PM, United States, Eastern Time, unless otherwise specified. Results may not be reported until the *Administrator* has certified the result to the *Board of Directors*, not later than 15 days after the *Day of Balloting*.

**Delisted:** A status in which a previously qualified *Attachment Product* or *Component* is removed from the official lists of *Certified Products/Verified Components* based on the *Administrator's* disqualification of the product, voluntary withdrawal, or expiration.

**Disqualified or Disqualification:** A finding by the *Administrator* that a specific qualified *Attachment Product*, product grouping or *Component*, manufactured by a *Manufacturing Participant*, fails to meet *Program Requirements*. It can be extended to disqualify further production at an enrolled facility, even if the product from that facility may meet program qualifications, provided there is a finding by the *Administrator* or *Independent Inspection Agency*, in accordance with the procedures herein, that said facility is in non-compliance with *Program Requirements*. It is also extended to describe the status of a *Program Participant (Accepted Calculation Entity or Accepted Simulator)* who has lost its status of acceptance/approval for inclusion as a *Program Participant* through a violation of the terms of the *Authorization Agreement*.

**Docket Schedule:** A schedule that specifies the deadlines for the responsibilities of *Appellants* and the *AERC* in the processing of an appeal.

**Documentation:** Any recorded information, including printed, hand written and/or digital records, in existence in normal form, generated by any stakeholder to the certification process, generated in the course of normal business, relevant to the purposes of the program.

**End-of-Life Notification:** A notice from the owner of an approved software that it will cease all support for versions of a program as of a specific date.

**EPc:** Annual Energy Performance Index (cooling zone) for window attachments ranging from 01 through 110, reported as a whole number, and calculated as the ratio of annual HVAC cooling energy savings resulting from the manual schedule use of the fenestration attachment product to the annual energy use caused by the baseline fenestration in the standardized model house without the attachment in the designated zone, multiplied by 100. Higher values are indicative of greater energy savings.

**EPc-Auto:** Annual Energy Performance Index (cooling zone) for window attachments with automation option ranging from 01 through 110, reported as a whole number, and calculated as the ratio of annual HVAC cooling energy savings resulting from the AERC automation schedule use of the fenestration attachment product to the annual energy use caused by the baseline fenestration in the standardized model house without the attachment in the designated zone, multiplied by 100. Higher values are indicative of greater energy savings.

**EPh:** Annual Energy Performance Index (heating zone) for window attachments ranging from 01 through 110, reported as a whole number, and calculated as the ratio of annual HVAC heating energy savings resulting from the manual schedule use of the fenestration attachment product to the annual energy use caused by the baseline fenestration in the standardized model house without the attachment in the designated zone, multiplied by 100. Higher values are indicative of greater energy savings.

**EPh-Auto:** Annual Energy Performance Index (heating zone) for window attachments with automation option ranging from 01 through 110, reported as a whole number, and calculated as the ratio of annual HVAC heating energy savings resulting from the AERC automation schedule use of the fenestration attachment product to the annual energy use caused by the baseline fenestration in the standardized model house without the attachment in the designated zone, multiplied by 100. Higher values are indicative of greater energy savings

**Executive Committee** A body comprising the Executive Officers of the *Board of Directors*, specifically the President, Vice-President, Treasurer, Secretary, and Executive Director. They have limited authority to act in the *Board of Directors'* stead for items requiring immediate decision.

**Fabricator:** A privately owned (i.e. not owned by the *Primary Manufacturer*) manufacturing facility where *Attachment Products* are assembled. The products assembled by the Fabricator have the same branding as those of the *Primary Manufacturer*. The *Primary Manufacturer* assumes responsibility for *Verification Testing* for the Fabricators at which their products are assembled.

**Group:** A set of two or more *Attachment Products* or *Substrate Materials*, containing a *Product Group Leader* or *Material Group Representative* and at least one *Product Group Member* or *Material Group Member*, with similar attributes as defined in AERC 1 or AERC 1.1.

**Independent Inspection Agency (IIA):** An entity, *Accepted* according to the program requirements of the *AERC Program Requirements*, that provides inspection services in association with conformity assessment oversight on *Accepted Calculation Entities* and *Manufacturer Participants*.

**Independent Validator:** An independent third party appointed by the *AERC* to provide validation services and support to the *AERC* in oversight of product certification applications pursuing certification of products.

**Inspection:** An occurrence of oversight intended to verify a *Program Participant* is complying with all relevant program requirements.

**Inspector:** An individual with requisite training and experience employed by an *Independent Inspection Agency* or under the direct control of the *Administrator* to conduct *Inspections* in accordance with a conformance surveillance process.

**Intentional Non-Compliance:** Any issue of non-compliance with the program requirements that is, in the judgment of the *Administrator*, willingly perpetrated by the *Program Participant* with awareness of the non-compliance issue, but allowed to occur in violation of the *Authorization Agreement*.

**Inter-Calculation Entity Comparison:** A proficiency exercise designed to evaluate competence and continuing eligibility as an *Approved Calculation Entity*, designed in conformance to ISO/IEC 17025 for calculation entities.

**Interested Party:** anyone with some quantifiable interest, subject to diminishment by some aspect of the implementation of *Program Requirements*.

**Label:** The act of labeling denotes "Certification" by the entity applying the *Label* to the product or product packaging. Certification is an affirmation by the entity applying the *Label* that the product meets all program requirements and that the specific product to which they are applying the *Label* was manufactured as a true representation of the originally simulated and/ or tested product.

**Label Certificate:** A document that conveys all required ratings information as specified in the *CPLR* prepared by the *Accepted Calculation Entity* within the qualifying criteria established under *Program Requirements*. *Label Certificates* are intended to accompany *Certified Attachment Products* delivered in non-conventional packaging.

**Listing:** A specific record of a product, verified component, and/or colors qualified under this program, maintained in a written or digital format, based on an accepted *Certified Product Listing Report*.

**Management System:** The body of written policies and procedures adopted by an organization seeking accreditation under ISO 17065, 17025, and 17020 to describe and manage the application of the *Quality Management System*.

**Manufacturer:** The producer of fully assembled *Attachment Products* listed in *AERC 1*, or the original producer of *Components* incorporated into any of those products.

**Manufacturer Participant:** A manufacturer of one or more products covered under the *AERC* product certification program who has had *Attachment Products* accepted for inclusion in the *Certified Products Database* and who is authorized under an *Authorization Agreement* to attest the product meets all requisite program requirements relating to their inclusion in the program.

**Material Group Member:** A specific *Listing* in the *CGDB* whose material properties are derived from those of the *Material Group Representative* in accordance with *Program Requirements*.

**Material Group Representative:** A specific *Listing* in the *CGDB* that undergoes full testing and whose material properties are used to derive properties for *Material Group Members* in the *CGDB* in accordance with *Program Requirements*.

**Non-Compliance:** The status of being in non-conformance with some aspect of *Program Requirements*.

**Notice of Action/Determination:** An official notice informing a *Program Participant* of an official decision regarding the imposition of an action affecting its interests as a *Program Participant* resulting from the application of program requirements.

**Notice of Intent:** A document filed by a *Program Participant* communicating its intent to appeal a determination by the AERC negatively affecting its participation.

**Path of Participation:** *Manufacturer Participants* have two different paths through which they may participate in the AERC product certification program. These are *Type 2* and *Type 3*.

**Permanent Label:** A *Label* permanently affixed to an *Attachment Product* allowing the identification of the *Listing* and the manufacturer of the product.

**Point of Labeling:** The last point of value-added input that may be applied by a participant with qualification to label, at the point product rating labeling is to occur. This could be the point of manufacture or a final point at which manufacturer packaging may occur, though the product may have arrived at this point fully assembled and in a package that could meet the base definition of *Standard Retail Packaging*, but where the addition of final branding labeling may be occurring.

**Point of Manufacture:** The location where final assembly of all components designed to make up a finished product ready for final delivery to the point of consumption takes place. This may or may not also be the *Point of Packaging* for labeling purposes.

**Point of Packaging:** The location at which the act of labeling may occur by a *Program Participant*, as determined by agreement with the *Administrator*, embodied in an *Authorization Agreement*.

**Primary Listing:** A listing submitted by the original manufacturer of a product and accepted into the CPD. *Primary Listings* can become the founding listing to *Secondary Listings* issued under *Secondary Listing Agreements*.

**Primary Manufacturer:** An entity that qualifies products on their own name and designs.

**Product Group Leader:** A specific listing in the CPD whose performance properties and EP become the proxy ratings for *Product Group Members* in the CPD in accordance with *Program Requirements*.

**Product Group Member:** A specific listing in the CPD whose performance is represented by the performance properties and EP of the *Product Group Leader* in accordance with *Program Requirements*.

**Product Simulation:** The act of using AERC-approved software to model the thermal and optical performance of a specific *Attachment Product* based on product specific attributes.

**Product Specific Requirements:** A program guideline that lays out the specific requirements for determining test conditions, applicable standards, inspection procedures, and other policies of qualification and certification that govern a product with differentiating characteristics and attributes that require some level of difference in governing procedures and documents.

**Program Label:** An affixation or printing on either *Standard Retail Packaging* or *Custom Retail Packaging* indicating that the *Attachment Product* in the package is qualified under the AERC program and that

communicates the  $EP_C$  and  $EP_H$  of the product. The design and information on the *Program Label* is determined by the AERC and delineated in the *Program Requirements*.

**Program Logo:** The registered mark of the AERC.

**Program Participant:** Organizations and/or individuals who have been *Accepted* to participate in and be governed by *Program Requirements* either as *Manufacturer Participants*, *Accepted Independent Inspection Agencies*, *Accepted Simulators*, *Accepted Calculation Entities*, or any other defined entity qualified to participate in any role engaged in the act of certifying products under the *Program Requirements*.

**Program Requirements:** The totality of all documents describing the requirements and conditions of participation in the AERC product certification program.

**Proxy:** A written document issued by a designated voting member of an organization authorizing another person to vote in their stead if allowed by the rules of the AERC.

**Qualification Package:** A grouping of documents, to include simulation reports, window simulation models, validation matrix, validation report, *Certified Product Listing Reports*, and other documents, as defined by the *Administrator*, that evidences compliance of product configurations to the requirements for certification under the *AERC Program Requirements*.

**Quality Assurance:** Those planned, systematic, and preventive actions that are required to ensure that materials, products or services will meet specified requirements on a continuing basis.

**Quality Assurance Manual:** The written system of quality management devised by the *Program Participant* and submitted to the *Administrator* to document the *Quality Management System*.

**Quality Control Program:** A pre-defined sequence of inspections, tests, or examinations to ensure that materials, products, or services were produced or performed in accordance with the participant's best practices to ensure conformance to specified requirements.

**Quality Management System (QMS):** A program of quality management, designed in accordance with the principles of ISO 9001 or another equivalent outline of minimum quality system documentation.

**Renewal Application:** The embodied documents required to request a four-year extension of the original product certification term.

**Renewal Products Listing Report:** A report submitted by the *Manufacturer Participant* in accordance with AERC procedures affirming that all products covered under the *Renewal Products Listing Report* remain in conformance with all the then-existing *Program Requirements* as of the date of renewal. Does not become evidence of acceptance as complying with *AERC Program Requirements* unless accepted under signature by the *Administrator*.

**Scope of Accreditation:** The specific standards to which accreditation is granted to a particular permanent, branch or satellite laboratory or other *Program Participant* who is claiming qualification on the foundation of some existing accreditation, certification, or approval.

**Secondary Listing:** A listing, derived from a *Primary Listing* issued to a *Secondary Manufacturer Participant* or a *Business Unit/ Sub-Brand*. *Secondary Listings* are predicated on a *Primary Listing* and

derive their qualification from an existing *Primary Listing* in good standing, but have restrictive rights that flow only from the rights of the *Primary Manufacturer* that are more narrowly defined in the *Program Requirements*.

**Secondary Listing Agreement:** A document setting the full terms applicable to some path of participation and specific to a *Manufacturer Participant* based on their circumstances as a *Secondary Manufacturer*.

**Secondary Manufacturer:** Acquires listings derived from the listings of a *Primary Manufacturer*. They are derived from the foundational *Primary Listing* and are subservient, limited versions thereof. *Secondary Manufacturer Participants* do not acquire any right in participation other than the limited rights of notice and listing as they exist in program documents, and in the *Secondary Listing Agreement*. *Secondary Listings* suspend or terminate in conjunction with the status of the *Primary Listing* on which the *Secondary Listing* is founded, with no right of recourse against the AERC, its officers or sub-contractors.

**Solar Heat Gain Coefficient (SHGC):** The ratio of the quantity of solar energy passing through a fenestration system (both directly transmitted solar radiation and solar energy absorbed by the fenestration system and re-transmitted into the inside space) to the incident solar radiation. It is expressed as a number between 0 and 1.

**Standard Retail Packaging:** Packaging designed to fully encapsulate *Attachment Products* in typically standard sizes to be sold in mass distribution. The packaging is predesigned to fit specific products, or possibly custom sizes in ranges of sizes deemed more standard than custom.

**Substrate Material:** The primary material component in an *Attachment Product* composing the majority of the effects on blocking light and thermal energy which is also a selectable input originating in the CGDB, IGDB, or NFRC 101, as appropriate for the material.

**Surveillance Inspection:** Periodic inspections performed by the *Administrator* or *Accepted Independent Inspection Agencies* (IIA), intended to verify and ensure continuing compliance with all program requirements.

**Type 2 Category Participants:** *Manufacturer Participants* that elect to have their products undergo *Verification Testing*.

**Type 3 Category Participants:** *Manufacturer Participants* that elect to have their participation verified by in-factory *Inspections* and *Verification Testing* of products selected during *Inspections*. The in-factory *Inspections* also verify the functioning of the accepted *Quality Management System*.

**U-factor:** a measure of the rate of non-solar heat transmission through a material or assembly, expressed in units of Btu/hr-ft<sup>2</sup>-°F (W/m<sup>2</sup>-K). The lower the U-factor, the greater resistance to heat flow and the better its insulating value.

**Validation:** The process by which a separate determination is made by the *Administrator* or a qualified, independent third party that a manufacturer's products qualify for certification by conformance with the *Program Requirements* and all applicable standards, protocols, and accepted practices applicable to the examination of product conformance based on a review of the submitted documents and work products attesting thereto.

**Validation Report:** Signed document prepared by the *Administrator*, or an appointed *Independent Validator*, attesting it has reviewed all submissions in conjunction with a *Qualification Package* and validating the declarations of qualification contained therein meet all program requirements.

**Variance:** An observed act or produced item that does not comply with *Program Requirements* and requires further investigation by the *Administrator* and *Program Participant*.

**Verify:** Determine that individual pieces of objective evidence state accurately the evidence they purport to relate.

**Verification Testing:** The process during which the *Administrator* acquires products certified by a *Manufacturer Participant* and tests them to verify critical component compliance and performance based on some program standard.

**Visible Transmittance (VT):** The ratio of visible light (380 to 720nm, weighted by the sensitivity of the eye) transmitted through an *Attachment Product* to the incident visible light. It is expressed as a number between 0 and 1.

**Voting Representative:** The designated person who is charged and authorized with executing the official ballots of a *Member* in specialized classes of votes.

# Acronyms

**AERC:** Attachments Energy Rating Council

**ANSI:** American National Standards Institute

**CPD:** Certified Products Database

**CPLR:** Certified Products Listing Report

**HVAC:** heating, ventilation, and air conditioning

**IGDB:** International Glazing Database

**ISO:** International Organization for Standardization

**LBL:** Lawrence Berkeley Laboratories

**NFRC:** National Fenestration Rating Council, Inc.

**RESNET:** Residential Energy Services Network

**Tvis:** Visible transmittance (see AERC 1.1)

**TVT:** Tolerance of Tvis (see AERC 1.1)



## **Appendix B – Program Forms**

All controlled forms required for participation in the *AERC Product Certification Program* are available in the controlled documents repository located on the AERC website located at [www.aercnet.org](http://www.aercnet.org).

## Appendix C – Program Interpretations

### Program Interpretations

*AERC Program Participants* may submit a request for interpretation regarding any aspect of the *AERC Program Requirements*. A valid request is one that seeks clarity about one or more program requirements in the *AERC* program documents.

- 1) Official interpretations do not:
  - a. Define the method of complying with *Program Requirements*, nor act as an official “approval” of any previous or subsequent activity the requesting participant may engage in, especially if it affects compliance with the *Program Requirements*.
  - b. Expand or detract from any program requirement.
  - c. Interpret any *AERC*-referenced standard developed by other entities, only the relationship to complying with *AERC Program Requirements*.
- 2) *AERC* will consider only the issuance of interpretations against the currently adopted *Program Requirements*. Advice that may be derived from interactions with the program *Administrator* in day-to-day participation are not to be construed as an official interpretation. Only formal requests, submitted in accordance with the procedures contained herein, will result in an “official” interpretation.

### Procedure to Request an Interpretation

- 1) There are two classifications of request:
  - a. Administrative
  - b. Technical
- 2) *Program Participants* will submit their request for an interpretation on the form specified by the *Administrator*. The submission should be accompanied by any documentation on which the participant perceives ambiguity or conflict. If the issue is technical, the party filing the request should explain and support its view with as much data as possible to offer the Technical Committee the best opportunity to clearly identify any ambiguity or conflict that may exist in the *Program Requirements*.
- 3) Upon submission, such request shall be reviewed by the *Administrator* who shall prepare a report advising the committee to which the item shall be referred on the merits and potential impact of the request. The *Administrator* shall then forward the report and request for interpretation.
- 4) Technical requests shall be referred to the Technical Committee for consideration and response. Administrative interpretation requests shall be referred to the Certification Committee for consideration and response. All official interpretations are subject to review by the *Board* prior to final release.
- 5) Consideration by the responsible committee will follow the regular rules and schedule defined and established by the committee as authorized in its charter. There is no specific defined deadline by which interpretations must be issued on any matter submitted for consideration. The committee may, in its sole discretion, decline to issue forth the interpretation if it finds no redeeming value in so doing. The *Executive Committee*, under the authority granted it by the full *Board*, may also decline to approve the release of any interpretation that may be issued in the process, if it may lead to further controversy or is not in accordance with the spirit and mission of the *AERC*. In such cases,

if the issue is affecting the program participation of the submitting party, it may elect to file a formal appeal in accordance with *Program Requirements*.

- 6) Consideration of a request for interpretation may be rejected for the following reasons:
  - a. It requests approval of a particular approach to compliance with any portion of the standard.
  - b. It identifies a gap or perceived weakness in the approved *Program Requirements*.
  - c. An issue can be addressed by an active committee engaged in the process of standards review. If such a process is ongoing at the time of submission of the request, the committee may elect to refer the issue to the committee then engaged in standards review.
  - d. It requests clarification of any element of a referenced standard.
  - e. The question has already been addressed in a previous request.
  - f. The interpretation identifies an issue and proposes the development of a new or modified standard. In this event, the issue may be referred for a review and revision process.
  - g. An interpretation seeks to expand the scope of the *AERC* product certification program.
  - h. The meaning of a standard is plain on its face.
- 7) If the committee of jurisdiction rejects the interpretation request, it shall provide a written explanation for rejecting the request to the submitting party within 10 business days of the receipt of the request by the committee.
- 8) Interpretations shall be forwarded to the *Executive Committee* for final approval.

## **Appendix D – Challenges to Substrate Materials and Attachment Product Ratings**

*Challenges* to the values assigned to any individual *Substrate Material* or individual *Attachment Product* ratings may be brought forth by any stakeholder with a potential to be impacted in any manner by the publication of either a *Substrate Material* into the *CGDB* or *Attachment Product Listing* in the *CPD*.

*Challenges* must be based on objective evidence that the values assigned in the *CGDB* or the *CPD* for any of the required data or ratings conflict materially with objective evidence derived from verification studies done in accordance with the provisions of *Program Requirements*, executed by competent bodies under engagement with the challenging party.

*Challenges* must be submitted on the form specified by the *Administrator*. It is the responsibility of the party bringing the *Challenge* to develop, establish and verify the objective evidence supporting the *Challenge*. The *AERC* shall not be responsible for reimbursing the cost of any activities expended by the challenging party in developing its case.

Parties bringing the challenge must also submit to the *Administrator*, along with the challenge form, a deposit of \$5,000.00 which will be utilized by the *AERC* to bill against for expenses associated with the *Challenge*. If the *Challenge* is successful, the party bringing the *Challenge* will have their entire deposit returned and the participant whose material or rating was successfully challenged will be billed for all expenses incurred by the *AERC* in association with the *Challenge*. If the *Challenge* is unsuccessful, any remaining balance in the deposited funds will be refunded to the party bringing the challenge as soon as the *Administrator* can construct the accounting necessary to reconcile the account, but not later than thirty days after the issuance of the decision in the matter. Any expenses that exceed the amount of the deposit will be billed to the party filing the *Challenge*.

*Challenges* will not be considered on any basis other than the results of the ratings process as described and applied through the *AERC Program Requirements* and must restrict themselves to the ratings and/or underlying data assigned as material properties.

### **Substrate Material Challenges**

The appropriate committee of jurisdiction as specified in the Bylaws of the *AERC* appoints a *Challenge Board* of three members to analyze the submissions of the party initiating the challenge and conduct fact finding in alignment with the process defined herein. After analyzing the submitted evidence and the accepted data and in consultation with any experts the *Challenge Board* deems necessary to formulating a ruling, the *Challenge Board* will issue its recommendation as to the merits of the challenge to the *Administrator* who will forward it to the *Board of Directors* for review and a final decision.

The conduct of the proceeding shall occur in this manner:

- Challenging party submits challenge application to the *Administrator* with supporting information and deposit check for the challenge process
- *Administrator* reviews application for sufficiency and materiality
  - If insufficient and/or immaterial:
    - *Administrator* notifies challenging party of rejection of challenge application
  - If sufficient and material:
    - *Administrator* notifies all requisite parties

- *Administrator* seeks appointment of *Challenge Board* members by the committee of jurisdiction
- *Administrator* works to schedule an acceptable date and time for hearing
- *Administrator* issues proposed docket to all *Interested Parties*
- All *Interested Parties* submit their arguments and objective evidence on a schedule determined by the *Administrator*
- *Administrator* obtains sample of material or component being challenged and sends it to LBL or other laboratory approved by the *Administrator* for testing.
- LBL or other laboratory conducts testing and publishes findings.
- *Challenge Board* holds hearing (in person or web conference) with *Interested Parties* to review arguments and objective evidence, consults with any experts the *Challenge Board* deems necessary, and issues a recommendation to the *Administrator*.
- *Administrator* forwards the recommendation of the *Challenge Board* to the *Board of Directors*.
- *Board of Directors* reviews findings and issues decision.
  - If *Challenge* is successful:
    - Decision effective at the end of the 30-day *Appeal* period if no *Appeal* filed. Deposit is returned to challenging party and participant whose material was challenged will be billed for expenses incurred by the *AERC* in association with the *Challenge*
  - If *Challenge* is unsuccessful:
    - *Administrator* notifies all *Interested Parties* and returns balance of deposited money from challenging party after all expenses have been paid

If *Appealed*, implementation of decision will be abated until resolution of the *Appeal*.

### **Attachment Product Ratings Challenges**

The appropriate committee of jurisdiction as specified in the Bylaws of the *AERC* shall appoint a *Challenge Board* of three members to analyze the submissions of the party initiating the challenge and conduct fact finding in alignment with the process defined herein, and shall request a representative from LBL or a non-interested *Accepted Simulator* to act as an advisor to the committee in hearing the facts of the case and provide simulations in verification. The *Challenge Board* shall request the representative from LBL or non-interested *Accepted Simulator* produce a recreation of the simulation of the product utilizing the challenge values and circumstances as fully reported by the challenger in deriving their objective evidence to support their allegation. The *Challenge Board* may, at its sole discretion, commission a separate simulation by a party with no interest in the outcome of the process to produce a third set of simulations for comparison against the challenge simulations and the simulation produced by LBL for confirmation purposes. In cases challenging *AERC* Automation ratings, simulation may not be necessary and only require evidence of automation capabilities through evidentiary documentation and/or live demonstration.

After full analysis and consideration of the ratings and the full set of simulations conducted in conjunction with the *Acceptance* of the challenged rating and the simulations conducted during the

investigation of the merits of the *Challenge*, the *Challenge Board* will issue its recommendation as to the merits of the challenge to the *Administrator* who will forward it to the *Board of Directors* for review and a final decision.

In cases alleging a defect in the rating of an *Attachment Product* the conduct of the proceeding shall occur in this manner:

- Challenging party submits challenge application to the *Administrator* with supporting information and deposit check for the challenge process
- Administrator reviews application for sufficiency and materiality
  - If insufficient and/or immaterial:
    - *Administrator* notifies challenging party of rejection of challenge application
  - If sufficient and material:
    - *Administrator* notifies all requisite parties
    - *Administrator* seeks appointment of *Challenge Board* members by the committee of jurisdiction
    - If necessary, Committee chairman seeks representative from LBL or non-interested *Accepted Simulator*
    - *Administrator* works to schedule an acceptable date and time for hearing
    - *Administrator* issues proposed docket to all *Interested Parties*
    - All *Interested Parties* submit their arguments and objective evidence on a schedule determined by the *Administrator*
      - For AERC Automation Rating challenges, The *Administrator* shall request a Bill of Materials (BOM), marketing materials, and a live demonstration of automation capabilities as objective evidence of automation capabilities. The live demonstration may be witnessed either in-person at a select manufacturing or retail location or remotely by live video call.
    - If necessary, Representative from LBL or non-interested *Accepted Simulator* recreates simulation of the product utilizing challenge values and circumstances as submitted by the challenger, and publishes findings.
    - If desired, *Challenge Board* commissions a separate simulation by a non-interested party for comparison against the challenge simulations and the simulation produced by LBL or *Accepted Simulator*.
    - *Challenge Board* holds hearing (in person or web conference) with *Interested Parties* to review arguments and objective evidence, consults with any experts the *Challenge Board* deems necessary, and issues a recommendation to the *Administrator*.
    - *Administrator* forwards the recommendation of the *Challenge Board* to the *Board of Directors*.
    - *Board of Directors* reviews findings and issues decision.
      - If *Challenge* is successful:
        - Decision effective at the end of the 30-day *Appeal* period if no *Appeal* filed. Deposit is returned to challenging party and participant whose product rating was challenged will be billed

for expenses incurred by the AERC in association with the *Challenge*

- If *Challenge* is unsuccessful:
  - *Administrator* notifies all *Interested Parties* and returns balance of deposited money from challenging party after all expenses have been paid

If *Appealed*, implementation of decision will be abated until resolution of the *Appeal*.

### **Minimum Evidentiary Requirements**

Challenges alleging inaccuracy of material properties must, at a minimum, be supported by a test report from an accredited testing laboratory, accredited to the scope of testing presented as objective evidence to the challenged property.

Challenges as to ratings must, at minimum, be supported on the basis of simulations conducted by an entity accepted by the Administrator as to their competence to perform such simulations and ratings.

### **Materiality of the Challenge**

Materiality in effect as to ratings is defined as:

- For *Attachment Products*:
  - Greater than or equal to a +/- 2.5 change to one or more rating in the *CPD* for *EPC*, *EPh*, *EPC-Auto*, and *EPh-Auto*.
- For *Substrate Materials*:
  - A value outside the Tolerance (TvT) listed in the *CGDB*, as established in *AERC 1.1*.
  - Greater than or equal to 10% or 0.1, whichever is less, above the listed Tolerance (TvT) in the *CGDB*.

### **Forum of Hearing**

The appropriate committee of jurisdiction as specified in the Bylaws of the AERC shall appoint a board of three members with experience and training qualifying them to hear such *Challenges*. This shall be known as the *Challenge Board*. Additionally, the *Challenge Board* shall request a representative from LBL or a non-interested *Accepted Simulator* to act as an advisor to the committee in hearing the facts of the case and provide simulations in verification. The *Challenge Board* will conduct deliberations telephonically or on-line regarding the appeal. If any party to the *Challenge* decides it is in their best interest to request an in-person hearing with all parties and the *Challenge Board* in one location, they may do so provided they accept the terms for such request as determined by the *Administrator*. This shall include bearing the costs of conducting said in-person hearing as incurred by the AERC and for their own participation. Owners of the challenged material shall be responsible for their own costs to attend any in-person hearing should they decide to appear. All costs associated with the conduct of the hearing at a specific location shall be borne by the party asserting the right regardless of outcome.

### **Confidentiality and Protection of Private Property Rights**

All *Challenges* shall be held in strict confidence. No party to a *Challenge* may discuss the issue outside the realm of the *Administrator* and is obligated to honor the private property rights of the entity who is

the subject of his challenge. The challenger may not discuss or disclose the filing of the *Challenge* with anyone other than the *Administrator* or those entities under contract to him in support of his petition. Any agreement so binding an entity as a consultant in the manner shall specifically bind these entities in similar fashion.

No entity that possesses, creates, reviews or maintains any portion of work products produced in support of the *Challenge* may disclose to anyone other than their principal and the *Administrator* the contents, impressions or opinions of the effect of the material on the materials ratings or product ratings except within the process of the challenge in strict accordance with the directions issued by the *Administrator*. All such work product is owned by the entity that paid for its creation. The entity submitting the *Challenge* must own or hold license to said work products and must be empowered to extend its rights to the documents to the *Administrator* on an equivalent basis as the party that owns them for the duration of the *Challenge* period. All such work products shall be furnished in discovery by the *Administrator* to the party against whom the *Challenge* is directed.

Should the *Challenge* be successful, *AERC* shall be licensed to hold all such work product in its custody for a minimum period of ten years in a confidential status, at which time it will be destroyed. Should the *Challenge* be unsuccessful, all such work product shall be immediately destroyed by the *AERC*.

### **Actions Based On Ruling**

Upon a finding of material effect, the *Challenge Board* shall issue a recommendation to the *Board of Directors* that the *CGDB* or *CPD* listing, or other affected *CPD* listings in question be suspended from the *CGDB* or *CPD*, subject to *Appeal*. The *Board* may direct the *Administrator* to provide a *Notice of Non-Compliance* based on the finding of the *Challenge Board* to the *Program Participant(s)* affected by the ruling and informing them of their rights to *Appeal* and provide all affected parties 30 days in which to file their request for *Appeal* in accordance with the provisions of *Appendix E*. Communications shall include the holders of any affected *Primary* or *Secondary CPD Listings*.

If the *Challenge* was to a *CGDB* material, holders of *Primary* or *Secondary CPD Listings* affected by changes to the *CGDB* properties may not appeal the suspension of the material from the *CGDB* but *Primary Listing* holders may as an *Interested Party* appeal the decision of the *Challenge Board* to prevent a suspension of their *CPD Listings* founded on that *CGDB Listing*. If the *Challenge* was to a rating accepted into the *CPD* to a specific *Manufacturer Participant*, the *Board* may direct the *Administrator* to notify the *Participant* that the *Challenge* to the listing in question was successful and that they shall cease labeling the product, subject to *Appeal*, at a date specified in the notice to the affected *Participant*.

If the affected parties fail to assert their rights to *Appeal* within thirty days of said notice, the *Administrator* may take the following actions:

- Notify LBL that based on a successful *Challenge*, all properties tied to that *Substrate Material* will be delisted in order to inform LBL of any further actions regarding the *CGDB Listing*.
- Change any current *CPD Listings* with an “active” status to “inactive”
- Order the owners of all *Primary* and *Secondary Listings* they must cease labeling the product and declaring it to be “certified” subject to further action by LBL and *AERC* on the *CGDB Listing* until they can submit revisions to their owned ratings. The *Administrator* shall not require the



removal of labeling from any products already labeled as of the date of his notice to revise and resubmit.

The *Executive Board* makes the final determination of actions as a result of a *Challenge*.

### **Appeals of the Rulings of the Challenge Board**

All rulings of the *Challenge Board* are subject to *Appeal* based on the procedures contained in *AERC 400, Appendix E*. The filing of an *Appeal* shall delay the implementation of any order by the *Administrator* pending resolution of the *Appeal*. Challenges to *CGDB Material Properties* may be appealed by the owner of the listing and any *Interested Party* whose interests will be negatively impacted. Challenges to attachment ratings of a specific manufacturer may only be appealed by the *Manufacturer Participant* who owns the *Primary Listing*.

## Appendix E – Appeals, Rights, and Procedures

*Program Participants* in any category whose interests have been or may be directly affected in an adverse manner by the standards in the *AERC* product certification program and/or procedural action by the *AERC* in the management of the program, have the right to appeal, subject to the limitations specified in the *Program Requirements*.

- 1) This includes, but is not limited to:
  - a. Revisions and interpretations to the *AERC* product certification program.
  - b. Challenges to materials and specific *Attachment Product* listings and the attendant ratings.
  - c. Disciplinary actions imposed on *Program Participants* resulting from declared *Non-Compliance with Program Requirements*.
  - d. Product listing terminations resulting from any *Challenges* to the *Listing*.
  - e. Termination of acceptances issued to *Accepted Independent Inspection Agencies*, *Accepted Simulators* and *Accepted Calculation Entities* based on any requirements affecting their participation.
- 2) Filing Procedure
  - a. *Notice of Intent* to file an appeal must be filed within the following deadlines:
    - i. Thirty (30) days of the issuance of a negative determination on any aspect of participation.
    - ii. Thirty (30) days after the adoption of any revision or addition to the *Program Requirements* as evidenced by the published notice of the full *Board of Directors* affirmation of the ballot results.
    - iii. Thirty (30) days after the publication date of the results of any official *Challenge* to material properties or product listings.
    - iv. Thirty (30) days after publication of official interpretations.
  - b. Notice in the context of this clause means the confirmed receipt in writing, including electronic delivery, of the *Notice of Intent* to file an appeal. Confirmation means either a written delivery receipt signed by someone in the administrative offices of the *AERC* or a return email acknowledging receipt of the notice, other than a system-generated return receipt. Specifically, the email must contain a written reference to the *Notice of Intent* to file the appeal and the date of the notice. The *Administrator* shall devise a specific form for this purpose and use it to respond to all filed notices whether received electronically, via the U.S. Mail or through another courier delivery mechanism.
  - c. The actual filing of the appeal must occur within 15 calendar days after the close of the period for filing a *Notice of Intent*.
- 3) Composition of the *Appeals Board*
  - a. The *Appeal Board* shall be composed of three or five members of the *Board of Directors* of the *AERC*, appointed by the *AERC* President as delineated below:
    - i. Including of a mix of representatives that balance all interests of the *AERC*, including the public stakeholder interest, excluding anyone associated by employment or contract with the *Appellant* or complainant. Meeting and the conduct of the hearing itself shall be conducted either telephonically or by web meeting. An *Appellant* may request a location specific hearing with all parties and the *Appeals Board* present. They may do so provided they accept the terms for such request as determined by the *Administrator*. This shall include bearing the costs of conducting said in-person hearing as incurred by the *AERC* and

for their own participation. All costs associated with the conduct of the hearing at a specific location shall be borne by the party asserting the right regardless of outcome.

- 4) Upon receipt of a timely filed *Notice of Intent* to file, the *Administrator* shall take the following actions:
  - a. Issue forth the instructions for appeal documentation.
  - b. Issue an estimated cost for conducting an appeal and an invoice for an *Appeal Bond* in the minimum amount of \$2,500.00 to remain on deposit until the issuance of the *Appeal Determination* as payment against the *AERC* expenses in conducting the appeal. The estimated cost for conducting an appeal shall be composed primarily of travel expenses and location costs associated with the appeal, depending on the venue at which it is to be held. Upon receipt of the *Appeal Bond*, the *Administrator* shall open the appeal file.
- 5) Once the appeal file has been opened, the *Administrator* shall take the following actions:
  - a. Issue notification to the *AERC* President. The notice to the *AERC* President shall request the appointment of an *Appeal Board*, per the provision included herein to hear the appeal.
  - b. Issue notification to the Chair of the Certification Committee and to the Chair of the Technical Committee if the appeal involves the application of the *AERC* technical standards.
  - c. Issue the *Docket Schedule* establishing the date for submission of all exhibits to the *Administrator* for distribution to the *Appeal Board* and coordinate with all parties to schedule the appeal hearing to be held no later than 45 days after the deadline for submission of exhibits. In the case of appeals involving technical issues related to the software, the hearing date deadline shall be 60 days after submission of exhibits to allow for an analysis by experts representing the *AERC* as advisors regarding the appeal issues.
  - d. In instances where a party has requested a location specific hearing, the docket schedule shall be defined to begin from the date at which the party requesting the location specific hearing remits payment for the estimated additional expenses for holding the location specific hearing.
- 6) Upon receiving notice from the *Administrator*, the *AERC* President shall appoint three or five members of the *Board of Directors* to the *Appeal Board*, and shall also identify two alternates to serve on the *Appeal Board*. The *Administrator* shall notify the *Appellant* of the members of the *Appeal Board*. The names of the alternates shall only be released if one or both of the *Appellant's* challenges to the membership of the *Appeal Board* is utilized and granted per the procedures outlined below.
- 7) Challenges to Members of the *Appeal Board*
  - a. The *Appellant* shall be granted one peremptory challenge to any member appointed to the *Appeal Board* and one challenge for cause. If the *Appellant* uses either a peremptory challenge or a challenge for cause is granted, one of the alternates shall be randomly appointed to the *Appeal Board* and the *Administrator* shall notify the *Appellant* of the change. The *Appellant* may then use the remaining peremptory challenge or challenge for cause to challenge any member of the *Appeals Board*, including the alternate. If granted, the remaining alternate will be appointed to the *Appeal Board* and the *Administrator* shall notify the *Appellant* of the change. The challenge for cause must be accompanied by a written explanation of the specific reason for the challenge. The *AERC* President is the sole authority with the discretion to rule on challenges for cause. If the President has a conflict of interest, the Vice President will make the determination.

- b. In the event of any challenge, whether peremptory or for cause, the deadline for the hearing date shall delay 30 days to accommodate the reconstitution of the *Appeals Board*.
- 8) The *Appellant* may engage any representation it wishes, including technical or legal experts, in pursuit of an appeal. The expenses for any and all such representatives shall be the responsibility of the *Appellant*, regardless of outcome. In the event the appeal is upheld, the *Appeal Bond* shall be refunded to the *Appellant* and the cost of conducting the appeal shall be borne by the AERC for only those costs outlined in the previously submitted cost estimate.
- 9) Notice of Determination - Within 30 days of the conclusion of the hearing, the *Appeal Board* shall issue its determination, along with an explanation of the decision to the *Appellant*, the AERC President, and the *Administrator*. This will constitute the final decision of the AERC in the matter. The determination shall be based on the votes of the majority of the members of the *Appeal Board*. The voting position of the members of the *Appeals Board* shall be recorded in the *Notice of Determination*.
- 10) Costs of Appeal - The cost of preparing the *Appellant's* appeal and any attendant exhibits or documents in support of the appeal shall be the sole responsibility of the *Appellant*. In the event the *Appellant's* appeal is denied, it will be invoiced for the actual costs incurred in the categories in the original cost estimate by the *Administrator*, less the amount of the *Appeal Bond*. Any amounts over and above the *Appeal Bond* shall be due within 30 days. Any amounts remaining in the *Appeal Bond* after deducting the costs of the appeal as determined on the invoice shall be refunded to the *Appellant* within 30 days of the issuance of the *Notice of Determination*.

## Appendix F – Program Fees

### Membership Dues

Type		Annual Dues
Individual		\$500
Public Interest		\$500
Associate		\$2,000
Manufacturer	Revenue	Annual Dues
	<=\$2M	\$1,000
	>\$2-\$6M	\$3,000
	>\$6-\$25M	\$7,000
	>\$25-\$75M	\$10,000
	>\$75M	\$15,000

**Individual:** Individual Membership is available to simulators and other individuals not eligible for Manufacturer, Associate, or Public Interest Membership with experience in the window attachment industry, building energy efficiency, and/or energy ratings.

**Public Interest:** Public Interest Membership is open to organizations whose purpose is to serve and improve the public welfare, e.g. government and non-for-profit organizations.

**Associate:** Associate Membership is open to organizations that are not eligible for Manufacturer Membership. This includes but is not limited to associations, calculation entities, testing labs, utilities, and distributors/retailers of window attachments.

**Manufacturer:** Manufacturer Membership is open to companies that manufacture components, materials, and finished fenestration attachment products. The manufacturer level is based on the company's prior year's revenue from North American business related to window attachment products. If a manufacturer owns a subsidiary company or multiple brands, then the subsidiary and/or brands may be covered under the parent manufacturer's membership, and the organization receives only one vote. A manufacturer that owns a subsidiary company with its own manufacturing location(s) may elect to obtain separate membership for the subsidiary company and therefore a separate vote.

## Attachment Product Certification Program Fees

### Participation Fees

Participant Type	Fee Type	AERC Member	Non-Member
Accepted Calculation Entity	Annual Participation Fee	\$1,750	\$1,750
	Annual Inspection Fee	\$1,440	\$1,440
Accepted Simulator	Annual Participation Fee	\$1,000	\$1,000
	Training Registration Fee	TBD	TBD
Accepted Independent Inspection Agency	Annual Participation Fee	\$1,000	\$1,000
	Annual Inspection Fee	\$1,440	\$1,440
Type 3 Category Manufacturer Participant (In-Plant Inspection)	First Year Per-plant Fee†	\$4,000	\$5,500
	Subsequent Years Annual Per-plant Fee†	\$3,440	\$5,500
	Per-sample testing fee‡	\$970	\$1,300
Type 2 Category Manufacturer Participant (Verification Testing)	Annual Participation Fee	\$4,500	\$6,000
	Per-sample testing fee	\$970	\$1,300
Secondary Listing Participants	Annual Participation Fee	\$2,200	\$3,200
Business Unit/ Sub-Brand*	Annual Participation Fee	\$2,200	\$3,200
Fabricator**	Annual Participation Fee	\$2,200	\$3,200
Other Fees	Variance Resolution	\$125/hr	\$125/hr
	Issuing Non-compliance	\$250	\$250

†Fee includes cost of annual inspection.

‡Type 3 participants will only be subject to verification testing if issues arise during their annual in-plant inspection.

### Manufacturer Participant Certified Products Database (CPD) Product Certification Fees

Type	Sub-type	AERC Member	Non-Member
Primary Listings	Single Product Listing Fee	\$150	\$200
	Group Leader Listing Fee^	\$350	\$525
	Fee Per Unit Sold°	\$0.03	\$0.04

<b>Secondary Listings</b>	Single Product Listing Fee	\$70	\$125
	Group Leader Listing Fee <sup>^</sup>	\$100	\$200
	Fee Per Unit Sold <sup>°</sup>	\$0.02	\$0.03
<b>CPLR Revision</b>		\$125/hour	

<sup>^</sup>The Group Leader Listing Fee is assessed based on manufacturer-chosen product groupings per AERC technical procedures. AERC will assess a group leader listing fee for every group leader submitted in a Certified Products Listing Report (i.e. the Accepted Simulator has simulated the performance of the exact product configuration and submitted those performance ratings for listing in the CPD). No listing fees apply to group members (products that are grouped and “inherit” performance ratings from their group leader). The Group Leader Listing fee is assessed upon submission of a CPLR.

<sup>°</sup>The Fee Per Unit Sold is assessed on a semi-annual (twice per year) basis. Manufacturers with certified products listed in the CPD are required to self-report unit sales of all certified products. This includes all product configurations that were submitted as group leaders and group members. Manufacturers must report certified product sales in the United States and Canada as of the first of the month in which they are certified (e.g. a product certified on April 16<sup>th</sup> must report sales as of April 1<sup>st</sup>). Manufacturers must submit sales data within 60 days of the end of each six-month period (January-June and July-December) and may be subject to late fees. At minimum, submitted data must include the following: brand, product line, product type, month of sale, and units sold. Submitted data must be reported in the AERC-provided template.

### Complex Glazing Database (CGDB) Listing Program Fees

Fee Type	Sub-type	AERC Member	Non-Member
<b>Annual Manufacturer Participation Fee#</b>		\$1,000	\$4,000
<b>New Submission Per Product Listing Fee  </b>	1-50 Listings	\$210	\$300
	51-150 Listings	\$170	\$300
	151+ Listings	\$90	\$300
<b>Annual Per Product Listing FeeΔ</b>	1-50 Listings	\$70	\$200
	51-150 Listings	\$55	\$200
	151+ Listings	\$30	\$200
<b>Editorial change fee</b>		\$50	\$135

#May be prorated if enrolled in second half of calendar year.

||Listing fee excludes cost of material testing. Covers first year listing costs.

ΔCovers annual per product listing fee after the first year and until a listing has to be updated with new performance information at which point a new submission fee would need to be paid.



## Appendix G – Currently Accepted Software

Software	Version Number
AERCalc	1.2.10
WINDOW	7.7.16
THERM	7.7.12

## Appendix H – Verification Testing Protocols and Processes

### 1) *Verification Testing* Process

- a. All *Manufacturer Participants* holding at least one “active” *Primary Listing* are subject to *Verification Testing*. The *Administrator* will construct a plan for determining which *Listings* of each *Manufacturer Participant* shall be subject to *Verification Testing* based on their category of participation (*Type 2* or *Type 3*). The *Administrator* will follow the basic process described below for each *Listing* subject to *Verification Testing*:
  - i) The *Administrator* shall obtain attachment samples either:
    - (1) On the open market (*Type 2 Category Participants*).
      - (a) For attachment products with AERC Automation Rating, the manual version shall be procured.
      - (2) As part of an on-site *Inspection* (*Type 3 Category Participants*).
        - (a) For attachment products with AERC Automation Rating, the manual version shall be procured.
    - ii) The *Administrator* will receive each attachment sample, inspect the package, verify labeling, and conduct a traceability study on the product components.
    - iii) For attachment products with AERC Automation Rating, verification shall include a review of provided Bill of Materials (BOM), marketing materials, and live or pre-recorded video demonstration for confirmation of automation capabilities.
    - iv) The *Administrator* will then forward the attachment sample to the *Administrator*-designated laboratory to process for *Verification Testing*.
    - v) The lab will perform a deconstruction of the attachment sample and compare the method of construction against the original drawings, specifications, or descriptive literature submitted as part of the *CPLR*.
    - vi) The lab will perform physical testing based on the *Substrate Material* type.
    - vii) If the attachment sample passes traceability, packaging inspection, deconstruction, and the physical testing requirement based on the substrate material type, the *Administrator* will notify the *Manufacturer Participant* that their attachment sample has passed *Verification Testing*.

### 2) *Fabric Substrate Materials*

- a. The lab will obtain five material samples from the attachment sample and randomly select one material sample for physical testing.
- b. All samples of attachments with fabric *Substrate Materials* shall be subject to physical testing based on the standard described in Section 5.1 in *AERC 1.1 Procedures for Determining the Optical and Thermal Properties of Window Attachment Materials*. To pass *Verification Testing* for fabric *Substrate Materials*, the material sample’s visible light spectrum testing results must fall within plus or minus the value of the Tolerance (TvT) of the reported Tvis in the CGDB of the *Material Group Representative*.

### 3) *Polymer, Wood & Metal Substrate Materials*

- a. Any attachment selected for *Verification Testing* with *Substrate Material* consisting of polymer, wood or metal will be tested in accordance of the accepted standards for either thermal conductance or emissivity if the reported value for either of these values are proprietary, non-default values from NFRC 101, Appendix A or B. PVC, metal and wood substrates utilizing a

default value for this category of physical characteristic shall not be subject to *Verification Testing*.

- b. If the material of a product is using a default value for thermal conductance or emissivity, then products in this category shall be tested in accordance with the provisions of *AERC 1.1* for the visible light spectrum provided it has a recorded  $T_{vis} > 0$  in the CGDB. If the product has a  $T_{vis} = 0$ , rating in the CGDB then testing will consist of verifying the physical characteristics of the substrate as recorded in submission to the CGDB and all physical geometries utilized in the construction of the original certification simulations.
  - c. Shall be tested to verify the substrate meets the criteria as delineated in Section 2) b i or 2) b ii above.
  - d. To pass *Verification Testing*, the attachment sample shall be  $\pm 20\%$  of the value for these properties (thermal conductance, emissivity, VT respectively) reported in the CGDB. Selection of the appropriate criteria will be at the discretion of the *Administrator* during the construction of the sampling plan.
- 4) Storm Windows and Panels
- a. Storm windows and panels are listed in accordance with published values relating to the glazing taken from the IGDB. These values are not under the purview of the *AERC*. *Verification Testing* for these categories of products may include the following physical testing:
    - i) Verification of dimensions and geometry compared to the original data submissions supporting the certification.
    - ii) Emissivity testing of the glass.
    - iii) If rated for *Air Leakage*, a physical test of *Air Leakage* as established in the current version of *AERC 1.2* for the specific category of storm window, resulting in a summary report.
  - b. To pass *Verification Testing*, the sample shall fall within a  $\pm 10\%$  tolerance for emissivity. Measured dimensions must fall within a tolerance of  $\pm 0.5$  mm for cross-sectional dimensions,  $\pm 1.5$  mm for cut length, and  $\pm 2$  mm for tip-to-tip width and height of assembled products.
- 5) Steps in Resolving *Verification Testing* Failures
- a. The following steps are available to resolve *Verification Testing* issues related to labeling, traceability, and/or deconstruction:
    - i) Upon the failure of a test performed on the originally collected sample, the test will be repeated on one of the substrate samples from the originally collected sample. In the event that sample also fails, the *Administrator* will order the collection of another attachment sample of the same product and a retest in accordance with the standards applicable for that specific product.
      - (1) If the second collected attachment sample passes, then the *Administrator* will notify the participant the *Verification Testing* was completed satisfactorily.
      - (2) Provided the substrate from the originally collected sample fails the second test, the *Administrator* shall order the collection of another sample of the same product for a second round of *Verification Testing*.
      - (3) Should the next round of *Verification Testing* fail to verify the product, the *Administrator* shall open a technical review to determine the root cause of the *Verification Testing* failures. During the *Technical Review*, the *Administrator* may issue a suspension of the product certification listing and order the owner of the listing to cease labeling the products until completion of the *Technical Review*.

- ii) The technical review process will include a review of all *Quality Management System* records to determine the cause of the variance in construction and the development of a plan to resolve the variance. The resolution plan is subject to acceptance by the *Administrator*. If it is discovered the *Manufacturer Participant* has made significant, unnoticed changes to the product rendering it is not in conformance with the original *Acceptance*, the *Administrator* will exercise discretion in devising the path to maintaining the current *Acceptance*, reactivation of the product status or termination of the product *Acceptance*.
- b. If the material sample does not meet the physical testing requirements of the *Substrate Material* type, the following steps are available to resolve the issue:
  - i) *Fabric Substrate Material* Samples:
    - (1) Retest another of the five material samples using the same procedure.
    - (2) If the second of the five material samples fails to meet the testing requirements, then the *Administrator* will order the collection of another attachment sample for physical testing of 1-2 material samples.
  - ii) *PVC, Wood & Metal Substrate Material* Samples:
    - (1) If proprietary emissivity value is the property tested, selecting another section of the sampled product and subjecting that sample to the same test; or
    - (2) If a default value for emissivity is claimed for the product, it shall be tested for thermal conductance, emissivity, or Tvis as compared to the allowable ranges specified herein when compared to the value for Tvis or TvT listed in the *CGDB*.
  - iii) *Storm Windows and Panels*:
    - (1) The *Administrator* will order the collection of another attachment sample for emissivity and/or *Air Leakage* testing
- 6) *Administrator Action upon Verification Testing Failure*
  - a. If the attachment sample fails *Verification Testing*, and no resolution is accomplished in the processes described herein, the *Administrator* shall inform the owners of the sample's *Primary CPD Listing*, and any *Secondary Listings* that their *Listings* will be suspended in the *CPD* until a full resolution satisfactory to the *Administrator* is achieved. The *Administrator* shall also notify the *Responsible-in-Charge* of maintenance of the *CGDB* of the repeated failures of a *CGDB* listing under *Verification Testing* and provide them full details of the failures. The *Administrator* shall suspend labeling authority of the *Manufacturer Participant* for that product until the matter can be thoroughly investigated and resolved.
  - b. *Verification Testing* regimes for specific *Manufacturer Participants* are subject to adjustment by the *Administrator*, based on the experiences of results from product *Verification Testing* in an extreme case, the *Administrator* may demand an on-site review of processes to try to determine the problems that may be leading to repeated failures. In the case of a *Manufacturer Participant* who has a proprietary process or material which guided their becoming a *Type 2 Category Participant*, the *Administrator* may require a full spectrum test on a specific product to determine the cause of repeated failures in verification testing.
  - c. In the event of a suspension of labeling authority or delisting of a product based on unresolved failures of *Verification Testing*, the owner of the *Primary Listing* may appeal in accordance with the provisions of *AERC 400 Certification Policies and Procedures*.

- d. The results of *Verification Testing* shall be reported to the *Manufacturer Participant* by the *Administrator* using the appropriate form.

## Appendix I – Reporting Requirements and Process

### Process

Manufacturers shall prepare the matrix of product submissions they are seeking acceptance of in consultation with their chosen simulation lab. *Accepted Calculation Entities* will conduct all simulations and the supporting THERM models as required for each specific configuration of each category of product defined in the *AERC 1 Procedures for Determining Energy Performance Properties of Fenestration Attachments*.

They will use these simulations as the imported input to derive the calculated *EPC*, *EPh*, *EPC-Auto*, and *EPh-Auto* that will become the label reported values for consumer reference. Upon the completion of this work product, the *Accepted Calculation Entity* will assemble all the following information to justify acceptance of products into the *Certified Products Database*. The totality of the documents shall be known as the *Certified Products Listing Report*.

*Certification Product Listing Reports* shall contain all of the following in the form specified by the *Administrator*:

### Written Declaration and Certification

“I the undersigned hereby certify the product enumerated on this Certified Products Listing Report meet the full requirements for acceptance into the *Certified Products Database* of the Attachments Energy Ratings Council. I further certify the following as true statements regarding this report and our role in producing this report affirming the eligibility of these products for acceptance:

All work product attached hereto, complies with all the applicable portions of the *Program Requirements*. All these products, as described in the simulations and models contained in this submission are true representations of the product definition, based on the evidence and designs submitted to us by the applicant manufacturer to whom we are bound in our role as fiduciary in producing this report.

We the undersigned, as individuals, employees and managers of the *Accepted Calculation Entity* submitting this report have no ownership, investment or other financial interest in the entity seeking acceptance of these products into the *AERC* product certification program. This statement is also true of any of our immediate family members. Nor will we acquire any interest throughout the term of any certification period extended to any product on the report.

All work product in support of the report is licensed by us for the proper use of the client who paid for its preparation. The owner for whom this report was produced, controls the terms of its use in accordance with the *Program Requirements* of the *Attachment Energy Ratings Council Product Certification Program* and in accordance with the terms and conditions of our engagement documents, and we indemnify and hold the *AERC*, its officers and sub-contractors harmless against any action in law in association with the lawful, good faith use of this report and the attendant work product for the uses intended. Our grant of license is irrevocable for the use of these documents in pursuit of, and as supporting evidence for the acceptance of the products listed therein as eligible for inclusion to the *AERC Certified Products Database* under the terms of the *Program Requirements*.”

This statement is to be signed by the designated representative of the *Accepted Calculation Entity* as per the application on file with the *Administrator* of the AERC. It shall be countersigned by an AERC *Accepted Simulator* acting in the capacity as an employee or contracted entity who participated in its production and review.

### **Other Reportable Items**

Additional items that will be reported in the form designated by the *Administrator* shall be derived from a properly configured simulation and confirming THERM Model and will include all of the following:

For each product submitted on a *CPLR*:

- Whether the product was simulated discretely or if performance properties were based on a *Product Group Leader*
- Unit Solar Heat Gain Coefficient
- Unit U-factor
- Unit Visible Transmittance
- Unit *EPh* (*EPh-Auto* if applicable)
- Unit *EPc* (*EPc-Auto* if applicable)
- For storm windows:
  - Glazing Emissivity
  - Glazing Solar Transmittance (*Tsol*)
- CGDB number of the configured shading layer (Report the value of the CGDB for the fully closed position for ratings composed of multiple simulations and CGDB numbers)
- Unit *TVis'* as reported in the CGDB Line Item associated with the fabric in the fully closed position for the specific product listing
- Unit *TVis(t)* as reported in the CGDB Line Item associated with the fabric in the fully closed position for the specific product listing.
- *TvT* is the Tolerance for *Tvis* as defined in AERC 1.1 and reported in the CGDB.
- Product Type
- Group Leader
- Location of installation (Interior or exterior)
- Baseline windows of simulation (BW01, BW02, BW03, BW04...)
- The size of the simulated window in the format of Width x Height if in a size other than the default size established in the AERC 1.
- Unique simulation identification number to ensure traceability for each simulation(s) that support an *EP* rating. The *Accepted Calculation Entity* shall maintain a log tying the simulation to the client who engaged the simulation and to the eventual *CPLR*.

- Copies of all simulations and THERM Models in zip file format shall be delivered to the *Administrator* along with the *Data Upload Spreadsheet*.

For *Manufacturer Participants* with multiple locations, the *ACE* shall identify all locations at which they will manufacture each product line submitted for listing.

For a *Manufacturer Participant* submitting products to be qualified as *Secondary Listings*, the *ACE* shall create a separate set of listings, under the participant identification of the specific *Secondary Manufacturer* or *Business Unit/ Sub-Brand*. The *ACE* shall identify the *Primary Listing* each *Secondary Listing* is founded on by referencing the *CPD Number* of the *Primary Listing*. The *Secondary Listings* shall only reference the *Corporate Parent Location* of the *Secondary Manufacturer Participant*. The *ACE* must deliver with these listings the *Secondary Listing Agreement* signed by both the *Primary Manufacturer* and the *Secondary Manufacturer* or *Business Unit/ Sub-Brand*.



## **Appendix J – Process Diagrams and Flow Charts**

Reserved