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

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

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

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

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

- The laboratory accreditation program (Accreditation Program), as set forth in the NFRC 701 Laboratory Accreditation Program (LAP)
- The IA licensing program (IA Program), as set forth in NFRC 702 Certification Agency Program (CAP)
- The CMA Approved Calculation Entity (ACE) licensing program (ACE Program) as set forth in the NFRC 708 Calculation Entity Approval Program (CEAP)

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

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

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

Products that are labeled with the NFRC Temporary and Permanent Label, or products that are listed on an NFRC Label Certificate in accordance with NFRC requirements, are considered to be NFRC-certified. NFRC maintains a Certified Products Directory (CPD), listing product lines and individual products selected by the Manufacturer/Responsible Party for which certification authorization has been granted.

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

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

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

National Fenestration Rating Council

- Certification Policy Committee
- Technical Interpretations Policy Committee
- Accreditation Policy Committee
- Independent Certification and Inspection Agency
- Independent Testing, Simulation Laboratories and Approved Calculation Entity Organizations

Fenestration Product Manufacturers

Figure 2

- NFRC Laboratory Accreditation Program
- Accreditation Policy Committee

- NFRC Inspection
- Conducts initial and bi-annual laboratory site inspections
- Conducts annual evaluation of labs
- Conducts blind competence evaluations
- Coordinates inter-laboratory comparisons
- Conducts laboratory workshops

- Testing and Simulation Laboratories
- Meets program requirements
- Demonstrates continued competence
- Participates in laboratory workshops
- Participates in annual inter-laboratory comparisons
- Pays fees

- Approved Calculation Entity Organizations
- Meets program requirements
- Demonstrates continued competence
- Participates in ACE workshops
- Pays fees

Revises LAP and CEAP Policy as needed
Rules on appeals
Provides LAP and CEAP interpretations
Questions on the use of this procedure should be addressed to:

National Fenestration Rating Council
6305 Ivy Lane, Suite 140
Greenbelt, MD 20770
Voice: (301) 589-1776
Fax: (301) 589-3884
Email: info@nfrc.org
Website: www.nfrc.org
DISCLAIMER

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

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

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

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

Table of Contents........................................................................................................................................... vii

1. Introduction ............................................................................................................................................... 1

2. NFRC Documents.................................................................................................................................. 2
   2.1 NFRC PROGRAM DOCUMENTS .......................................................................................... 2
   2.2 NFRC TECHNICAL DOCUMENTS .................................................................................. 2
   2.3 PROGRAM BULLETINS AND INTERPRETATIONS .......................................................... 2
   2.4 MANUALS .......................................................................................................................... 2

3. Program Participant Intake ........................................................................................................................... 3
   3.1 NFRC 700 PROGRAM PARTICIPANT INITIAL CONTACT ........................................ 3
   3.2 NFRC 705 & 708 PROGRAMS - INITIAL CONTACT ................................................... 6

4. Report Evaluation ..................................................................................................................................... 8
   4.1 REPORT REVIEW ............................................................................................................ 8

5. Recertification .......................................................................................................................................... 9
   5.1 PCP RECERTIFICATION REQUIREMENTS .................................................................. 9
   5.2 NOTIFICATION OF EXPIRATION .............................................................................. 9

6. Issuing CARs ............................................................................................................................................ 10
   6.1 ALTERNATE METHOD FOR ISSUING A CAR ......................................................... 10
   6.2 SITE-BUILT LABEL CERTIFICATES .......................................................................... 11

7. Private Labeler Process ............................................................................................................................... 12
   7.1 COPYING PRODUCT LINES FROM A MANUFACTURER TO A PRIVATE LABELER ...... 12

8. NFRC Certified Products Database (CPD) ................................................................................................. 14
   8.1 THE “NFRC CERTIFICATION DATABASE INSPECTION AGENCY USER’S MANUAL” 14
   8.2 NFRC CONTACTS FOR DATABASE ISSUES .............................................................. 14

9. Inspections ................................................................................................................................................ 15
   9.1 INSPECTION CRITERIA ................................................................................................. 15
   9.2 INITIAL AND ANNUAL MANUFACTURER PLANT INSPECTIONS ............................... 15
   9.3 IA PERIODIC REVIEW ................................................................................................. 15
10. Reporting ................................................................................................................................. 16
   10.1 INACTIVE MANUFACTURERS REPORTING PROCESS ................................................. 16
   10.2 QUARTERLY REPORTING TO NFRC ................................................................. 16

11. Compliance Protocol ........................................................................................................... 17
   11.1 SUSPENSION .......................................................................................................... 17
   11.2 REVOCATION .................................................................................................................. 17
   11.3 ADMINISTRATIVE ACTIONS AND CHALLENGES .............................................. 17

Appendix A .................................................................................................................................. 18
Appendix B .................................................................................................................................. 20
Appendix C .................................................................................................................................. 55
1. INTRODUCTION

The Certification and Inspection Agency (IA) Operations Manual sets forth operational
guidelines for NFRC-licensed IAs involved in the NFRC Product Certification Program (NFRC
700 PCP or Product Certification Program), Certification Agency Program (NFRC 702 CAP or IA
Program), Component Modeling Approach (NFRC 705 CMA or CMA-Product Certification
Program), Calculation Entity Approval Program (NFRC 708 CEAP), and Insulating Glass
Certification Program (NFRC 706 IG Certification Program). This manual, in tangent with the
NFRC Certification Database 2.0 Inspection Agency User's Manual and requirements in
accordance with program documents (i.e. NFRC 701: LAP), is to be used as a reference tool
and guide to all NFRC-licensed IAs when reviewing simulation and test reports, accepting report
data into the Certified Product Database (CPD) and CMAST, generating Certification
Authorization Reports (CAR) and label certificates, and conducting plant inspections.
2. NFRC DOCUMENTS

Any revisions or additions to the NFRC Product Certification Program documents, both technical and program, which have been implemented and/or approved by NFRC Board of Directors take precedence over this manual. This manual will be revised from time to time as needed.

Each NFRC-licensed IA shall maintain copies of all current NFRC documents governing or pertaining to the operation of the Certification Programs.

2.1 NFRC Program Documents

All current NFRC program documents are maintained on the NFRC website at http://www.nfrc.org/programdocs2.aspx.

2.2 NFRC Technical Documents

All current NFRC technical documents are located on the NFRC website at http://www.nfrc.org/technicaldocs.aspx.

2.3 Program Bulletins and Interpretations

Bulletins - NFRC bulletins provide general information on recent revisions and/or additions to NFRC Programs that have been implemented and/or approved by NFRC Board of Directors.

1. PCP Bulletins: http://www.nfrc.org/bulletins.aspx
2. LAP Bulletins: http://www.nfrc.org/programdocs2.aspx

Interpretations - Interpretations may be rendered by governing committees in cases where issues are not clearly defined in NFRC Program and Technical documents.

1. PCP Interpretations: http://www.nfrc.org/participantonly/interpretations.aspx
2. LAP Interpretations: http://www.nfrc.org/programdocs2.aspx

2.4 Manuals

The IA is recommended to keep a copy on file of each user manual.

The CPD 2.0 User Manuals can be found here: http://www.nfrc.org/CPDInfo.aspx

The Simulation Manual and Appendices can be found here: http://www.nfrc.org/technicaldocs.aspx
3. **PROGRAM PARTICIPANT INTAKE**

### 3.1 NFRC 700 Program Participant Initial Contact

**A. Program Participant Initial Contact**

i. If an IA is contacted by a fenestration manufacturer, the IA shall contact NFRC (by e-mail, support@nfrc.org, or letter copy) and request that a PCP packet be sent to the manufacturer.

   (a) NFRC PCP packets include:

   (i) Applied Film
   (ii) Door Distributor Dealer
   (iii) Door Pre-Hanger
   (iv) Fabricator
   (v) Private Labeler
   (vi) Manufacturer
   (vii) Site Built

ii. The following participant information should be provided to NFRC staff:

   (a) Name of manufacturer
   (b) Address of manufacturer
   (c) Phone and fax number
   (d) Contact person’s name and e-mail address
   (e) Category of manufacturer

iii. NFRC will send the manufacturer an informational PCP email or letter containing the following:

   (a) NFRC 700, PCP-Current Edition;
(b) Most recent NFRC Certification Program Bulletins and Interpretations;
(c) Applicable NFRC License Agreement to be signed and returned to NFRC;
(d) Applicable Schedules;
(e) Responsible Party Data Sheet;
(f) A list of NFRC accredited laboratories and NFRC licensed Independent Certification and Inspection Agencies (IAs); and
(g) Guidelines for Manufacturers Requesting NFRC Product Certification and flowchart.

B. Certified Products Database Records
   i. A record is created in the database by NFRC staff at the time a signed license agreement and schedules are received;
   ii. NFRC staff will activate the record in the database and incorporate the pertinent information received by the manufacturer, such as plant location(s), plant contact information, date license agreement received, and IA designation;
   iii. NFRC staff will notify the IA by e-mail when the record has been activated; and
   iv. The simulation and test laboratories are able to upload and the IA reviews/accepts the data and generates a Certification Authorization Report (CAR). Note: IAs may refer laboratories to NFRC for any manufacturer not available for uploading reports.

C. Suspensions
   i. Manufacturer Suspension
      (a) Procedures and grounds for suspension are listed in the NFRC-700
      (b) If the IA submits a suspension in proper form to NFRC:
         (i) NFRC will inactivate the Manufacturer in the CPD and all current product lines will be given an “02” (Suspension) status
      (c) Upon non-receipt of payment for NFRC quarterly/yearly dues:
         (i) NFRC will inactivate the Manufacturer in the CPD and all current product lines will be given an “02” (Suspension) status
         (ii) NFRC will send notification to the manufacturer of temporary suspension with reinstatement invoice
         (iii) NFRC will notify each IA by e-mail with a list of all associated suspended participants
(d) Reinstatement of the Manufacturer:

(i) NFRC will activate the manufacturer in the CPD and return all suspended product lines to their previous status and send a notification to the manufacturer and IA

D. Terminations

i. Manufacturer Termination

(a) If a suspended manufacturer fails to remedy a Notice of Suspension:

(i) NFRC will notify by e-mail or other method to the manufacturer a Notice of Revocation

(ii) NFRC will notify the IA by email of the terminated manufacturer

(iii) NFRC will change all product lines in Suspension “02” status to “11” Revocation

ii. Product Line Termination

(a) Upon IA’s proper procedure for terminating a product, per NFRC-702:

(i) The IA shall include the termination date and purpose of termination in the product line’s comments
3.2 NFRC 705 & 708 Programs - Initial Contact

A. Program Initial Contact

If an IA is contacted by a party interested in CMA, the IA shall contact NFRC (by e-mail, cmastsupport@nfrc.org, or letter copy) and request for information to be sent to the requester.

i. NFRC CMA entities that require a License Agreement include:
   (a) Specifying Authority
   (b) Approved Calculation Entity (ACE) Organization
   (c) Inspection Agency
   (d) Accredited Simulation Laboratory

ii. NFRC CMA entities that do not require a License Agreement include:
   (a) Approved Calculation Entity (ACE) (employee/contractor)
   (b) Accredited Testing Laboratory
   (c) Glazing Manufacturer
   (d) Spacer Manufacturer
   (e) General User

iii. The following information should be provided to NFRC staff:
   (a) Name of requester
   (b) Address of requester
   (c) Phone and fax number
   (d) Contact person’s name and e-mail address
   (e) Category of requester

iv. NFRC will send an informational email or letter containing the following:
   (a) CMA Program Info Packet
(b) CMA Fee Schedule
(c) The link to register on CMAST website
(d) Link to NFRC 705, CMA-PCP - Current Edition
(e) Link to NFRC 708, CEAP - Current Edition
(f) Link to NFRC CMA Program Bulletins
(g) Link to the list of NFRC-accredited laboratories and NFRC licensed Independent Certification and Inspection Agencies (IAs) (if applicable);

B. CMA Directory Records

i. The user will register as a general user to become a Specifying Authority, ACE Organization, or an ACE;

ii. NFRC staff will approve the user;

iii. The user will receive a notification of approved registration;

iv. NFRC staff will notify the IA by e-mail when the user has been approved for registration;

v. The ACE Organization will return a signed copy of the License Agreement;

vi. The ACE will have to be connected with an ACE Organization to create a Label Certificate;

vii. The simulation and test laboratories are able to submit components to the CMAST libraries, and the IA reviews and approves the data to be used in the Label Certificate; and

viii. The Specifying Authority will return a signed copy of the License Agreement.
4. Report Evaluation

This section should be used as a resource in conjunction with Example #1 set forth in Appendix B and the NFRC Certified Products Database 2.0 IA User’s Manual when evaluating simulation and test reports, and the simulation spreadsheet.

4.1 Report Review

A. Reports are received via hard and/or electronic copy by the IA from the NFRC-accredited lab that conducted the simulation or test

B. The simulation and test lab is required to submit upload spreadsheets to the CPD. The simulation lab is required to send the upload spreadsheet in electronic format to the IA

C. When evaluating lab spreadsheets, the IA may use the requirements set forth in accordance with the corresponding CPD user manuals located: http://www.nfrc.org/CPDInfo.aspx

D. The IA shall record the date the report was received which will be placed into the authorized product line detail information in the CPD

E. The IA will verify that the test report validates the simulation report findings within the range of variation permitted under the requirements of NFRC 100. Note: Reference NFRC 700 for non-validation issues

F. For “test only” individual products within a simulated product line report, the IA shall verify the receipt of a letter from NFRC with the approval that the product cannot be simulated. Note: Reference NFRC 100, section 4.5.1

G. For test only products the IA shall request the laboratory to contact NFRC staff for upload spreadsheet set-up instructions

H. The IA will verify each user defined laminate or applied film created for NFRC Certification using the current version of Optics. Refer to Appendix B, Example 2 for a step by step guide to review laminates and applied films.

I. NFRC technical procedure and referenced reporting requirement documents:

<table>
<thead>
<tr>
<th>Simulation Reports</th>
<th>NFRC 701.03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal Test Reports</td>
<td>NFRC 701.04</td>
</tr>
<tr>
<td>Solar Calorimeter Reports</td>
<td>NFRC 701.05</td>
</tr>
<tr>
<td>Air Leakage Reports</td>
<td>NFRC 701.06</td>
</tr>
<tr>
<td>Condensation Resistance Reports</td>
<td>NFRC 701.07</td>
</tr>
</tbody>
</table>
5. **RECERTIFICATION**

5.1 **PCP Recertification Requirements**

The IA will forward participants the 6 Month Extension Request Form as required following the recertification requirements set forth in the NFRC 700. [http://www.nfrc.org/ExemptionRequests.aspx](http://www.nfrc.org/ExemptionRequests.aspx)

5.2 **Notification of Expiration**

NFRC will notify participating manufacturers/responsible parties of certification expiration dates at the following occurrences:

**Approaching:**
- Semi-Annual – Notification for product lines that are within 1-1/2 years of expiration will be forwarded to both the IA and licensee. NOTE: Notices will not include product lines granted a six month extension.

**Post Expiration:**
- Weekly – A notification is forwarded to the IA of product lines which expired the previous week and have been coded by NFRC with a status code “07” (Expired).

IAs can run a report of approaching expirations of their client/manufacturer product lines in the Certified Products Database (refer to NFRC CPD IA User Manual for additional information).
6. Issuing CARs

Certification Authorization Reports (CARs) can be generated by the Certified Products Database once the IA accepts the simulation and test data into the database (see NFRC CPD IA User Manual for further details). The report is generated as a PDF file.

The IA signs the CAR at the end of the report where indicated and sends a copy of the CAR to the manufacturer/client and NFRC. If the CAR is sent by e-mail, it does not need to be signed as long as the e-mail address sending the CAR is directly from the Individual-in-Responsible-Charge of the IA issuing certification authorization; this will serve as an electronic signature for the CAR.

The IA shall send notification to NFRC upon the completion of an initial CAR for a new licensee by emailing the licensee name or MFR CODE, it is not necessary to send the actual CAR.

6.1 Alternate Method for Issuing a CAR

A. The alternate method of issuing a CAR shall only be used in the event that the IA or NFRC cannot print a CAR using the standard procedures developed to do so in the database application;

B. If the IA encounters a problem in accepting a product line and therefore cannot print a CAR using the report generated from the database application or if the database generated report is missing data or contains inaccurate information, the IA shall complete the “Alternate Method for Issuing a CAR Request Form” (See Appendix A) and send it to NFRC via e-mail or facsimile;

C. NFRC will review the issue submitted within two (2) days of receiving the request;

D. If NFRC can identify the problem which prohibits a CAR from being produced, the resolution shall be sent to the appropriate party detailing the method to use to correct the problem. The appropriate party shall be responsible for correcting the problem;

E. If NFRC cannot provide a solution to the problem that allows the IA to print a CAR using the standard method within 2 business days, NFRC shall indicate on the Alternate Method CAR Form that the IA shall issue a CAR using the alternate method;

F. If NFRC cannot provide a solution within 2 business days, NFRC shall continue to investigate the problem and will record the problem in the database log. Upon resolution, the database log will be updated and the response area of the Alternate Method CAR Request Form shall be completed and forwarded to both the simulation laboratory and the IA; and

G. NFRC shall be responsible for correcting the problem in the event that the problem is caused by the database application.
6.2 Site-Built Label Certificates
   A. The label certificate is a stand-alone document, 8 ½” X 11”, whose content and format are to follow the requirements set forth in the NFRC 700 (Appendix C). NFRC can provide a label certificate form to the IA upon request.
7. **PRIVATE LABELER PROCESS**

7.1 **Copying product lines from a Manufacturer to a Private Labeler**

A. A Private Labeler contracts/arranges with a Manufacturer to label the manufacturer’s authorized product as his own;

B. The manufacturer provides NFRC and their Inspection Agency (IA) with a **Permission Letter** on letterhead as confirmation of the arrangement with Private Labeler (If necessary, NFRC can provide a template letter);

C. NFRC will forward the Permission Letter and contact the Private Labeler to explain the process and will email all documents needing to be completed / approved;

D. License Agreement:
   (a) Private Labeler requester signs an NFRC Private Labeler License Agreement and completes a Schedule I, II, and VI. A Responsible Party Data Sheet shall be completed if the Private Labeler is not a current participant in the NFRC Certification Program.
   (i) NFRC will provide the Private Labeler a Schedule V with the product line listing of which product lines are to be labeled;
   (ii) NFRC will confirm with the Private Labeler the Manufacturer’s series/model name and corresponding Private Labeler series/model name listed on the provided Schedule V.
   (iii) The Schedule VI lists the Private Labeler location(s) where the NFRC temporary and permanent labels are applied.

E. Private Labeler contracts with an IA of their choice:
   (a) If the IA is the same as the Manufacturer’s IA, continue to Section 7.1.F.
   (b) If the IA is different than the Manufacturer’s IA, proceed with the following:
      (i) The Manufacturer shall authorize their IA to provide “copies” of the original and all subsequent reports to the Private Labeler IA.
      (ii) The new IA is given the opportunity to review and accept the product lines with notification sent to NFRC within 30 of the 60 days allotted for a product line transfer;

F. Upon receipt of all documentation and confirmation of IA Contract, the following NFRC fee structure has been developed to process requests:
   i. All requests are to be processed in a direct cost (real-time) fee.
   ii. NFRC staff will review each request and will forward the quote to both the Manufacturer and the Private Labeler.
iii. Upon receipt of approval, the product lines will be processed and assigned a Status 06 “Do Not Copy in Directory”.

iv. The responsible party will be invoiced by NFRC.

NOTE: NFRC may require receipt of simulation and test upload spreadsheets;

G. Upon receiving notification from NFRC, the IA will review copied product lines and activate the product lines by removing Status 06 coding and apply the Status 13 “Private Labeled Product Line”. The IA will then issue CARs for those product lines;

H. These products assume a separate CPD # and Series/Model name under the Private Labeler record and which are also maintained under the original manufacturer record under the manufacturer name and CPD #;

and

I. The IA shall send notification to NFRC upon the completion of an initial CAR for a new licensee by emailing the licensee name or MFR CODE, it is not necessary to send the actual CAR.

J. NFRC adds “Private Labeler” to the participant’s listing and emails an NFRC Welcome Package to the Private Labeler.

K. When additions and/or deletions of individual options are modified in a Manufacturer’s NFRC-certified product line:

(a) All corresponding Private Labeler products as reflected in the Schedule V shall be updated with the same modifications

   (i) If the IA is the same as the Manufacturer’s IA, continue to Section 7.1.K.b.

   (ii) If the IA is different than the Manufacturer’s IA, proceed with the following:

       (1) The Manufacturer shall authorize their IA to provide “copies” of the reports to the Private Labeler’s IA.

       (2) The new IA is given the opportunity to review and accept the product lines with notification to NFRC within 30 of the 60 days allotted for a product line transfer;

(b) Upon the IA’s request/approval, NFRC will process the product lines and assign a Status 06 “Do Not Copy in Directory”;

(c) Upon receiving notification from NFRC, the IA will review copied product lines and activate the product lines by removing Status 06 coding and apply the Status 13 “Private Labeled Product Line”. The IA will then issue CARs for those product lines.
The Certified Products Database (CPD) is used by NFRC, IAs, Simulation Laboratories, Thermal Test Laboratories, and Manufacturer/Responsible Parties. (www.nfrc.org/cpd2)

The Certified Products Directory is a search engine adjunct to the database application and utilized by various consumers, such as builders, purchasers, code officials, and architects; it allows the consumer to search certified products and obtain their performance ratings data of a certified window or door product. (http://cpd.nfrc.org/search/searchdefault.aspx)

8. **NFRC CERTIFIED PRODUCTS DATABASE (CPD)**

8.1 **The “NFRC Certification Database Inspection Agency User’s Manual”**

This is the Certified Products Database reference manual for the IA user. It contains step-by-step instructions on how to utilize the application from accepting the simulation and test matrix, running reports (e.g. CAR), to inputting product line data (such as certification dates, product status). The manual also sets forth rules for data entry. Please refer to this user manual for reference when needed.

The user manual can be found here: [http://www.nfrc.org/CPDinfo.aspx](http://www.nfrc.org/CPDinfo.aspx)

8.2 **NFRC Contacts for Database Issues**

Any problems that may be encountered when using the database or any requests for additions or modifications to the application should be directed to NFRC.

- Complete and submit a “CPD2.0 Issue Form”; this form may be obtained from the NFRC website at [http://www.nfrc.org/documents/CPDissue.doc](http://www.nfrc.org/documents/CPDissue.doc)
9. **INSPECTIONS**

9.1 **Inspection Criteria**

   A. The IA in-plant, site-built, and attachment inspection criteria are listed in the NFRC 702 and NFRC 700.

   B. The IA quality assurance requirements are listed in the NFRC 706

   C. A fenestration and IG Certification Plant Inspection Checklist is offered as a guideline for conducting plant inspections in Appendix C.

9.2 **Initial and Annual Manufacturer Plant Inspections**

   A. Manufactures are required to keep updated schedules per NFRC 700. Schedules can be printed from the CPD by the IA prior to an inspection. The IA inspector will review schedules during an in-plant inspection to ensure the schedules are current.

   B. IAs are recommended to update their in-plant inspection check list to include all action items found from their NFRC Periodic Review Report. (i.e. verification of grid size, shape and material, verification of necessary paperwork from third party vendors).

9.3 **IA Periodic Review**

   A. NFRC Staff will forward the IA the Onsite and In-plant Checklist criteria prior to the visit
10. REPORTING

10.1 Inactive Manufacturers Reporting Process

NFRC will notify the designated IA of any client manufacturer suspension of licensing or voluntary termination from the Certification Program.

10.2 Quarterly reporting to NFRC

For manufacturer requirements and billing schedule, see NFRC 704.

Label usage count – This is the manufacturer NFRC permanent label usage report. Label usage reporting is accomplished by the following:

A. The manufacturer, who generates his own permanent labels, reporting label usage to the IA or NFRC directly on a quarterly basis with a Quarterly Label Usage Report form, or

B. The IA who generates permanent labels for the manufacturer/client, reporting to NFRC the number of labels they have generated and sent out for that particular manufacturer/client in a given quarter.

Site-Built Label Certificates:

NFRC invoices Site-Built licensees upon issuance of Label Certificate.
11. Compliance Protocol

In general, issues regarding participant compliance to the NFRC Certification Program are to be coordinated between the IA and NFRC staff. Though each issue should be taken on individual basis, case precedence should be deferred to when making decisions for action and for consistency in protocol.

11.1 Suspension

A. The IA or NFRC may suspend a manufacturer or a manufacturer’s product lines
   - If a manufacturer is suspended, during the suspension period, the manufacturer record is inactive and the products are coded with the “02” status line code in the Certified Products Database, or
   - If a manufacturer’s product lines are suspended, during the suspension period, the manufacturer record remains active but the products are coded with the “02” status line code in the Certified Products Database

11.2 Revocation

In the event of a revocation, the certified products are decertified with the “11” status line code and the manufacturer record is deactivated by NFRC staff.

11.3 Administrative Actions and Challenges

Procedures for Administrative Action requests and Challenges are expressly set forth in the NFRC 700. NFRC may request the assistance of the respective IA in the investigation of an Administrative Action request.
APPENDIX A

Alternate Method for Issuing a CAR
Request Form

IA: ___________________________ Date: ___________________________
Simulation Lab: ___________________________ Report Number: ___________________________
Test Lab: ___________________________ Report Number: ___________________________
Manufacturer Name: ___________________________ Series/Model Designation: ___________________________
Product Line Number: ___________________________ IA Fax Number: ___________________________

Reason for the Request to use the alternate method for Issuing a CAR
(please attach any documentation necessary to completely explain the problem encountered while using the database application)

__________________________________________________

__________________________________________________

__________________________________________________

__________________________________________________

__________________________________________________

__________________________________________________

__________________________________________________

__________________________________________________

__________________________________________________

__________________________________________________

__________________________________________________

__________________________________________________

__________________________________________________

__________________________________________________

__________________________________________________

__________________________________________________

__________________________________________________

NFRC Notes:

Date: ___________________________
Alternative Method for Issuing a CAR- Request Form

_____ User should submit more information (see notes detailing list of further documentation)

_____ Database issue resolved (see notes detailing resolution)

_____ Issue cannot be resolved, Issue CAR using Alternate Method

Final Resolution:

Appropriate Party to Fix (Name): _________________ Date: _________________

Details of Resolution:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
1. Fenestration Product Description

**Type:** Skylight

**Frame Material:** Aluminum with thermal break. (white)

**Glazing:** See glazing matrix

**Glazing dimension:** 1) Overall glazing width 1.00 inches. See matrix attached.

**Glazing Fill:** Glazing has following option for gas fill: (Details in glazing matrix)
1) 85% Argon filled with Two-Probe filling with a concentration sensor.
2) AIR

**Spacer:** Standard Aluminum spacer (Drawing provided).
Coated Steel Intercept spacer (Drawing provided)

**Divider:** None

**Primary Sealant:** PIB (See drawing for details)

**Secondary Sealant:** Butyl (See drawing for details)

**Cross Sections:** 1) Assembly drawings (dxl file provided)
2) Spacer (drawings provided)
3) All component die drawings with dimensions.

**Other**
2. Glazing Matrix:

<table>
<thead>
<tr>
<th>SR</th>
<th>ID</th>
<th>Gap</th>
<th>ID</th>
<th>Gap</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clr 3mm</td>
<td>Air</td>
<td>Clr 3mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Clr 4mm</td>
<td>Air</td>
<td>Clr 4mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Clr 5mm</td>
<td>Air</td>
<td>Clr 5mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Clr 6mm</td>
<td>Air</td>
<td>Clr 6mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Clr 3mm</td>
<td>Air</td>
<td>Clr 5mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Clr 6mm</td>
<td>Air</td>
<td>Clr 5mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7*</td>
<td>LoE=0.04(2nd) 3mm</td>
<td>Air</td>
<td>Clr 3mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8*</td>
<td>LoE=0.04(2nd) 6mm</td>
<td>Air</td>
<td>Clr 6mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9*</td>
<td>LoE=0.04(2nd) 3mm</td>
<td>Air</td>
<td>Clr 6mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10*</td>
<td>LoE=0.04(2nd) 6mm</td>
<td>Air</td>
<td>Clr 6mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11*</td>
<td>Clr 3mm</td>
<td>Air</td>
<td>LoE=0.04(3rd) 3mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12*</td>
<td>Clr 6mm</td>
<td>Air</td>
<td>LoE=0.04(3rd) 6mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13*</td>
<td>Clr 3mm</td>
<td>Air</td>
<td>LoE=0.04(3rd) 3mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14*</td>
<td>Clr 6mm</td>
<td>Air</td>
<td>LoE=0.04(3rd) 6mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>3mm Solar-Ban 60</td>
<td>Air</td>
<td>6mm clear laminate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*LowE glass products used are, LoE² 162 on clear, Guardian Performance Plus II on clear and Solar-Ban 60 on clear.

Clear Glass is a float glass from any glass Industries.

6mm overall thickness clear laminate glass having 0.015” PVB interlayer from Vitrum Industries Ltd.
See Table for strip width (A).

Steel, Tin Plate Intercept Spacer
Figure B-2

Spacer

<table>
<thead>
<tr>
<th>A</th>
<th>Dimention</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.6 inch</td>
</tr>
<tr>
<td>2</td>
<td>0.5 inch</td>
</tr>
<tr>
<td>3</td>
<td>0.4 inch</td>
</tr>
<tr>
<td>4</td>
<td>0.3 inch</td>
</tr>
<tr>
<td>5</td>
<td>0.25 inch</td>
</tr>
</tbody>
</table>
3. GLAZING MATRIX –Evaluation:

A. Glazing Matrix:
   1. Options
   2. LowE on correct location (Flip function)
   3. # (pound) sign
   4. Gap
   5. Gas fill %
   6. Tilt (for slope glazing should be 20° and for Vertical glazing 90°)
   7. Glazing matrix grouping

Table B-2 Glazing Matrix

Options: Based on manufacture instructions the following options have to be modeled.

Overall IG unit measurement 1.00” inch

<table>
<thead>
<tr>
<th>SR</th>
<th>ID</th>
<th>Gap</th>
<th>ID</th>
<th>Glazing ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clr 3mm</td>
<td>Air</td>
<td>Clr 3mm</td>
<td>887/A/887</td>
</tr>
<tr>
<td>2</td>
<td>Clr 4mm</td>
<td>Air</td>
<td>Clr 4mm</td>
<td>888/A/888</td>
</tr>
<tr>
<td>3</td>
<td>Clr 5mm</td>
<td>Air</td>
<td>Clr 5mm</td>
<td>889/A/889</td>
</tr>
<tr>
<td>4</td>
<td>Clr 6mm</td>
<td>Air</td>
<td>Clr 6mm</td>
<td>890/A/880</td>
</tr>
<tr>
<td>5</td>
<td>Clr 3mm</td>
<td>Ar 85%</td>
<td>Clr 3mm</td>
<td>887/AG/887</td>
</tr>
<tr>
<td>6</td>
<td>Clr 6mm</td>
<td>Ar 85%</td>
<td>Clr 6mm</td>
<td>890/AG/890</td>
</tr>
<tr>
<td>7</td>
<td>LoE=0.04(2nd) 3mm</td>
<td>Air</td>
<td>Clr 3mm</td>
<td>2021/A/887</td>
</tr>
<tr>
<td>8</td>
<td>LoE=0.04(2nd) 3mm</td>
<td>Air</td>
<td>Clr 3mm</td>
<td>3213/A/887</td>
</tr>
<tr>
<td>9</td>
<td>LoE=0.04(2nd) 3mm</td>
<td>Air</td>
<td>Clr 3mm</td>
<td>5281/A/887</td>
</tr>
<tr>
<td>10</td>
<td>LoE=0.04(2nd) 6mm</td>
<td>Air</td>
<td>Clr 6mm</td>
<td>2024/A/890</td>
</tr>
<tr>
<td>11</td>
<td>LoE=0.04(2nd) 6mm</td>
<td>Air</td>
<td>Clr 6mm</td>
<td>3216/A/890</td>
</tr>
<tr>
<td>12</td>
<td>LoE=0.04(2nd) 6mm</td>
<td>Air</td>
<td>Clr 6mm</td>
<td>5284/A/890</td>
</tr>
<tr>
<td>13</td>
<td>LoE=0.04(2nd) 3mm</td>
<td>Ar 85%</td>
<td>Clr 3mm</td>
<td>2021/AG/887</td>
</tr>
<tr>
<td>14</td>
<td>LoE=0.04(2nd) 3mm</td>
<td>Ar 85%</td>
<td>Clr 3mm</td>
<td>3213/AG/887</td>
</tr>
<tr>
<td>15</td>
<td>LoE=0.04(2nd) 3mm</td>
<td>Ar 85%</td>
<td>Clr 3mm</td>
<td>5281/AG/887</td>
</tr>
<tr>
<td>16</td>
<td>LoE=0.04(2nd) 6mm</td>
<td>Ar 85%</td>
<td>Clr 6mm</td>
<td>2024/AG/890</td>
</tr>
<tr>
<td>17</td>
<td>LoE=0.04(2nd) 6mm</td>
<td>Ar 85%</td>
<td>Clr 6mm</td>
<td>3216/AG/890</td>
</tr>
<tr>
<td>18</td>
<td>LoE=0.04(2nd) 6mm</td>
<td>Ar 85%</td>
<td>Clr 6mm</td>
<td>5284/AG/890</td>
</tr>
<tr>
<td>19</td>
<td>Clr 3mm</td>
<td>Air</td>
<td>LoE=0.04(3rd) 3mm</td>
<td>887/A/2021</td>
</tr>
<tr>
<td>20</td>
<td>Clr 3mm</td>
<td>Air</td>
<td>LoE=0.04(3rd) 3mm</td>
<td>887/A/3213</td>
</tr>
<tr>
<td>21</td>
<td>Clr 3mm</td>
<td>Air</td>
<td>LoE=0.04(3rd) 3mm</td>
<td>887/A/5281</td>
</tr>
<tr>
<td>22</td>
<td>Clr 6mm</td>
<td>Air</td>
<td>LoE=0.04(3rd) 6mm</td>
<td>890/A/2024</td>
</tr>
<tr>
<td>23</td>
<td>Clr 6mm</td>
<td>Air</td>
<td>LoE=0.04(3rd) 6mm</td>
<td>890/A/3216</td>
</tr>
<tr>
<td>24</td>
<td>Clr 6mm</td>
<td>Air</td>
<td>LoE=0.04(3rd) 6mm</td>
<td>890/A/5284</td>
</tr>
<tr>
<td></td>
<td>Material</td>
<td>Type</td>
<td>Thickness</td>
<td>LoE</td>
</tr>
<tr>
<td>---</td>
<td>-------------------</td>
<td>------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>25</td>
<td>Clr 3mm</td>
<td>Ar</td>
<td>85%</td>
<td>LoE=0.04(3rd) 3mm</td>
</tr>
<tr>
<td>26</td>
<td>Clr 3mm</td>
<td>Ar</td>
<td>85%</td>
<td>LoE=0.04(3rd) 3mm</td>
</tr>
<tr>
<td>27</td>
<td>Clr 3mm</td>
<td>Ar</td>
<td>85%</td>
<td>LoE=0.04(3rd) 3mm</td>
</tr>
<tr>
<td>28</td>
<td>Clr 6mm</td>
<td>Ar</td>
<td>85%</td>
<td>LoE=0.04(3rd) 6mm</td>
</tr>
<tr>
<td>29</td>
<td>Clr 6mm</td>
<td>Ar</td>
<td>85%</td>
<td>LoE=0.04(3rd) 6mm</td>
</tr>
<tr>
<td>30</td>
<td>Clr 6mm</td>
<td>Ar</td>
<td>85%</td>
<td>LoE=0.04(3rd) 6mm</td>
</tr>
<tr>
<td>31</td>
<td>3mm Solar-Ban 60</td>
<td>Air</td>
<td>6mm</td>
<td>clear laminate</td>
</tr>
</tbody>
</table>

Notes:

A. LowE glass products used are, LoE² 162 on clear, Guardian Performance Plus II on clear, and Solar-Ban 60 on clear
B. Clear Glass is a float glass from AFG Industries
C. 6mm overall thickness clear laminate glass having 0.015” PVB interlayer from Vitrum Industries Ltd
D. Ar = Argon
4. Simulation Evaluation:

Figure B-3

Check: Option modeled, Tilt angle, # sign, and IG overall thickness.

<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Tilt</th>
<th>Environmental Conditions</th>
<th>Overall IG Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>c:8037_s_s807</td>
<td>20</td>
<td>NFCR 100 2003</td>
<td>0.686 0.870 0.905 0.821 1.858</td>
</tr>
<tr>
<td>2</td>
<td>c:8037_s_s808</td>
<td>20</td>
<td>NFCR 100 2003</td>
<td>0.586 0.786 0.936 0.821 1.858</td>
</tr>
<tr>
<td>3</td>
<td>c:8037_s_s809</td>
<td>20</td>
<td>NFCR 100 2003</td>
<td>0.586 0.786 0.936 0.821 1.858</td>
</tr>
<tr>
<td>4</td>
<td>c:8037_s_s810</td>
<td>20</td>
<td>NFCR 100 2003</td>
<td>0.586 0.786 0.936 0.821 1.858</td>
</tr>
<tr>
<td>5</td>
<td>c:8037_s_s811</td>
<td>20</td>
<td>NFCR 100 2003</td>
<td>0.586 0.786 0.936 0.821 1.858</td>
</tr>
<tr>
<td>6</td>
<td>c:8037_s_s812</td>
<td>20</td>
<td>NFCR 100 2003</td>
<td>0.586 0.786 0.936 0.821 1.858</td>
</tr>
<tr>
<td>7</td>
<td>c:8037_s_s813</td>
<td>20</td>
<td>NFCR 100 2003</td>
<td>0.586 0.786 0.936 0.821 1.858</td>
</tr>
<tr>
<td>8</td>
<td>c:8037_s_s814</td>
<td>20</td>
<td>NFCR 100 2003</td>
<td>0.586 0.786 0.936 0.821 1.858</td>
</tr>
<tr>
<td>9</td>
<td>c:8037_s_s815</td>
<td>20</td>
<td>NFCR 100 2003</td>
<td>0.586 0.786 0.936 0.821 1.858</td>
</tr>
<tr>
<td>10</td>
<td>c:8037_s_s816</td>
<td>20</td>
<td>NFCR 100 2003</td>
<td>0.586 0.786 0.936 0.821 1.858</td>
</tr>
<tr>
<td>11</td>
<td>c:8037_s_s817</td>
<td>20</td>
<td>NFCR 100 2003</td>
<td>0.586 0.786 0.936 0.821 1.858</td>
</tr>
<tr>
<td>12</td>
<td>c:8037_s_s818</td>
<td>20</td>
<td>NFCR 100 2003</td>
<td>0.586 0.786 0.936 0.821 1.858</td>
</tr>
<tr>
<td>13</td>
<td>c:8037_s_s819</td>
<td>20</td>
<td>NFCR 100 2003</td>
<td>0.586 0.786 0.936 0.821 1.858</td>
</tr>
<tr>
<td>14</td>
<td>c:8037_s_s820</td>
<td>20</td>
<td>NFCR 100 2003</td>
<td>0.586 0.786 0.936 0.821 1.858</td>
</tr>
<tr>
<td>15</td>
<td>c:8037_s_s821</td>
<td>20</td>
<td>NFCR 100 2003</td>
<td>0.586 0.786 0.936 0.821 1.858</td>
</tr>
<tr>
<td>16</td>
<td>c:8037_s_s822</td>
<td>20</td>
<td>NFCR 100 2003</td>
<td>0.586 0.786 0.936 0.821 1.858</td>
</tr>
</tbody>
</table>

For Slope Glazing 20°
For Vertical Glazing 90°
Check: LowE on correct surface, flip function and gas fill:

- LowE is generally not on exposed surfaces of the glazing unit, e.g. on surface (1) and (4) of double pane glazing unit.

Gas fill ID#

Flip function to place LowE on correct surface

(1) E1 = Pane1 surface 1
(2) E2 = Pane1 surface 2
(3) E1 = Pane2 surface 1
(4) E2 = Pane2 surface 2
Figure B-5

Gas fill ID verification

<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Type</th>
<th>Conductivity</th>
<th>Viscosity</th>
<th>Cp</th>
<th>Density</th>
<th>Plot</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Air</td>
<td>Pure</td>
<td>0.073607</td>
<td>0.000011</td>
<td>0.14611</td>
<td>0.111236</td>
<td>0.0000568</td>
<td>0.7127</td>
</tr>
<tr>
<td>2</td>
<td>Argon</td>
<td>Pure</td>
<td>0.009486</td>
<td>0.000014</td>
<td>0.11932</td>
<td>0.111236</td>
<td>0.0000568</td>
<td>0.7127</td>
</tr>
<tr>
<td>3</td>
<td>Krypton</td>
<td>Pure</td>
<td>0.005006</td>
<td>0.000012</td>
<td>0.030256</td>
<td>0.223423</td>
<td>0.0000568</td>
<td>0.7127</td>
</tr>
<tr>
<td>4</td>
<td>Xenon</td>
<td>Pure</td>
<td>0.003901</td>
<td>0.000014</td>
<td>0.023819</td>
<td>0.395038</td>
<td>0.0000568</td>
<td>0.7127</td>
</tr>
</tbody>
</table>
Verify gas fill percent and gas type is correct; all gas fill combinations must equal 100%.
FRAME Library in WINDOW 5.2:

A. Type: (for slope products vertical members, i.e. Jamb and Meeting Rail should be sill).

B. Absorptance: (Frame and divider SHGC shall be calculated with a default frame and divider absorptance of 0.3 for all products except window glazed wall, sloped glazing systems (as defined in Table 4-3 of NFRC 100), curtain wall and store front as (defined in Section 5.6 in NFRC 100). For these products use a default frame and divider absorptance of 0.5.)

Figure B-7
Table B-3  Grouping:
In this example following glazing can be grouped. (*designates group leader)

<table>
<thead>
<tr>
<th>SR</th>
<th>ID</th>
<th>Gap</th>
<th>ID</th>
<th>Glazing ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>1*</td>
<td>Clr 3mm</td>
<td>Air</td>
<td>Clr 3mm</td>
</tr>
<tr>
<td>G1</td>
<td>2</td>
<td>Clr 4mm</td>
<td>Air</td>
<td>Clr 4mm</td>
</tr>
<tr>
<td>G1</td>
<td>3</td>
<td>Clr 5mm</td>
<td>Air</td>
<td>Clr 5mm</td>
</tr>
<tr>
<td>G1</td>
<td>4</td>
<td>Clr 6mm</td>
<td>Air</td>
<td>Clr 6mm</td>
</tr>
<tr>
<td>G2</td>
<td>5*</td>
<td>Clr 3mm</td>
<td>Ar 85%</td>
<td>Clr 3mm</td>
</tr>
<tr>
<td>G2</td>
<td>6</td>
<td>Clr 6mm</td>
<td>Ar 85%</td>
<td>Clr 6mm</td>
</tr>
<tr>
<td>G3</td>
<td>7</td>
<td>LoE=0.04(2nd) 3mm</td>
<td>Air</td>
<td>Clr 3mm</td>
</tr>
<tr>
<td>G3</td>
<td>8</td>
<td>LoE=0.04(2nd) 3mm</td>
<td>Air</td>
<td>Clr 3mm</td>
</tr>
<tr>
<td>G3</td>
<td>9</td>
<td>LoE=0.04(2nd) 3mm</td>
<td>Air</td>
<td>Clr 3mm</td>
</tr>
<tr>
<td>G3</td>
<td>10*</td>
<td>LoE=0.04(2nd) 6mm</td>
<td>Air</td>
<td>Clr 6mm</td>
</tr>
<tr>
<td>G3</td>
<td>11</td>
<td>LoE=0.04(2nd) 6mm</td>
<td>Air</td>
<td>Clr 6mm</td>
</tr>
<tr>
<td>G3</td>
<td>12</td>
<td>LoE=0.04(2nd) 6mm</td>
<td>Air</td>
<td>Clr 6mm</td>
</tr>
<tr>
<td>G3</td>
<td>19</td>
<td>Clr 3mm</td>
<td>Air</td>
<td>LoE=0.04(3rd) 3mm</td>
</tr>
<tr>
<td>G3</td>
<td>20</td>
<td>Clr 3mm</td>
<td>Air</td>
<td>LoE=0.04(3rd) 3mm</td>
</tr>
<tr>
<td>G3</td>
<td>21</td>
<td>Clr 3mm</td>
<td>Air</td>
<td>LoE=0.04(3rd) 3mm</td>
</tr>
<tr>
<td>G3</td>
<td>22</td>
<td>Clr 6mm</td>
<td>Air</td>
<td>LoE=0.04(3rd) 6mm</td>
</tr>
<tr>
<td>G3</td>
<td>23</td>
<td>Clr 6mm</td>
<td>Air</td>
<td>LoE=0.04(3rd) 6mm</td>
</tr>
<tr>
<td>G3</td>
<td>24</td>
<td>Clr 6mm</td>
<td>Air</td>
<td>LoE=0.04(3rd) 6mm</td>
</tr>
<tr>
<td>G4</td>
<td>14</td>
<td>LoE=0.04(2nd) 3mm</td>
<td>Ar 85%</td>
<td>Clr 3mm</td>
</tr>
<tr>
<td>G4</td>
<td>15</td>
<td>LoE=0.04(2nd) 3mm</td>
<td>Ar 85%</td>
<td>Clr 3mm</td>
</tr>
<tr>
<td>G4</td>
<td>16*</td>
<td>LoE=0.04(2nd) 6mm</td>
<td>Ar 85%</td>
<td>Clr 6mm</td>
</tr>
<tr>
<td>G4</td>
<td>17</td>
<td>LoE=0.04(2nd) 6mm</td>
<td>Ar 85%</td>
<td>Clr 6mm</td>
</tr>
<tr>
<td>G4</td>
<td>18</td>
<td>LoE=0.04(2nd) 6mm</td>
<td>Ar 85%</td>
<td>Clr 6mm</td>
</tr>
<tr>
<td>G4</td>
<td>25</td>
<td>Clr 3mm</td>
<td>Ar 85%</td>
<td>LoE=0.04(3rd) 3mm</td>
</tr>
<tr>
<td>G4</td>
<td>26</td>
<td>Clr 3mm</td>
<td>Ar 85%</td>
<td>LoE=0.04(3rd) 3mm</td>
</tr>
<tr>
<td>G4</td>
<td>27</td>
<td>Clr 3mm</td>
<td>Ar 85%</td>
<td>LoE=0.04(3rd) 3mm</td>
</tr>
<tr>
<td>G4</td>
<td>28</td>
<td>Clr 6mm</td>
<td>Ar 85%</td>
<td>LoE=0.04(3rd) 6mm</td>
</tr>
<tr>
<td>G4</td>
<td>29</td>
<td>Clr 6mm</td>
<td>Ar 85%</td>
<td>LoE=0.04(3rd) 6mm</td>
</tr>
<tr>
<td>G4</td>
<td>30</td>
<td>Clr 6mm</td>
<td>Ar 85%</td>
<td>LoE=0.04(3rd) 6mm</td>
</tr>
<tr>
<td>G5</td>
<td>31*</td>
<td>3mm Solar-Ban 60</td>
<td>Air</td>
<td>6mm clear laminate</td>
</tr>
</tbody>
</table>
5. FRAME CROSS SECTION – Evaluation (THERM files):

A. Grouping
   i. Spacer
   ii. Divider
   iii. Frame

B. Profile checking

C. Material

D. Cross-section property

E. Glazing details

F. Spacer

G. Divider (argon fill link)

H. Emissivities

I. Boundary condition and tags

J. Special cases
   i. Skylight
   ii. TDD
   iii. Site-built Fenestration Products
A.  **Grouping**  

**Note:** Rules for grouping need to be followed per NFRC 100 procedure.

i.  **Spacer:**

- Check that the best case cog-U-Factor group leader glazing option is modeled in each cross-section model
- All spacers need to be modeled
- Whole Product (full window assembly in W5/W6 Window Library) U-Factors need to be compared to determine group leader
- All files (therm models and W5/W6 libraries) used for determination of certification need to be part of the final report submitted
- Report should indicate all spacer group leaders
- All spacer drawings need to be part of the final report

**Figure B-8**  
Spacers provided for review

ii.  **Divider:**

- Check that the best-case cog-U-Factor group leader glazing option is modeled in each divider model
- Whole Product (full window assembly in W5/W6 Window Library) U-Factors need to be compared to determine group leader
- All files (i.e. Therm and W5/W6) used for determination of certification need to be part of the final report submitted
- Report should indicate the divider group leader
• All divider drawings need to be part of the final report

iii. Frame:
• Check that the best-case cog-U-Factor group leader glazing option is modeled in each cross-section model
• All frame cross-section options need to be modeled
• Whole product (full window assembly in W5/W6 Window Library) U-Factors need to be compared to determine group leader
• All files (i.e. Therm and W5/W6) used for determination of certification need to be part of the final report submitted
• Report should indicate the frame group leader
• All frame options and assembly drawings need to be part of the final report

B. Profile Checking
• Make sure that drawing cross-section profile matches the Simulation therm model
  o Check assembly drawing and die drawings

C. Material
• Check material properties used for product components
  o Thermal break material
  o Materials that are used for certification must be listed in the NFRC 101.
  o Spacer details and material used

D. Cross-section property
• Check if correct cross-sectional property is used.

Figure B-9
Profile Checking, Material, Cross-section property

1. Verify Profile with cross sections and individual drawings.
2. Always use Aluminum alloy
3. Urethane Thermal break
4. Cross-section property
E. Glazing Details

- Glazing IG unit information can be checked by double clicking on the glazing unit.
  - Check CR height
  - Check if all cross-section of a product has same effective Conductivity, Keff.
  - Check glass and emissivity surfaces

Figures B-10
Glazing Details
F. **Spacer**

- Link to Glazing Cavity: Spacer cavity linked to glazing cavity should be linked correctly
- Check for correct material used in spacer compared to individual drawings

**Figure B-11**
Spacer Properties

![Spacer Properties Diagram](image)
G. Divider

- Glazing with gas fill (Argon, Krypton ...) and having a divider shall be modeled with air cavities having material property derived from WINDOW glazing library
- Verify if the material is a frame cavity using ISO 15099 cavity model and simplified radiation model
- Check interior emissivity of aluminum divider cavity which should be 0.2

Figure B-12
Divider Properties
H. **Emissivities**
  - Check emissivity of material surface by double clicking on boundary condition
    - Emissivity of an enclosed painted extruded aluminum cavity is 0.2, while the exposed surface is 0.9
    - Emissivity of mill finish extruded aluminum alloy surface is 0.2
    - Emissivity of anodized extruded aluminum alloy surface is 0.8

**Figure B-13**
Emissivities
I. **Boundary Condition & Tags**

- Select complete interior boundary condition starting with selecting the bottom most interior surface, hold down the Shift key and selecting the boundary surface next to the glass and press Enter. The Boundary Condition Type properties box will display.
  - By highlighting the surface boundary conditions (BC) one can check if the correct BC is used.
  - As in the case below the properties window displays “??<multiple (selection)>??”, which indicates that more than one BC is applied to the selected surface. (See Figure B-14)
  - To verify proper BC, select a smaller section of the surface’s BC.
- Check for correct boundary condition U-Factor Surface Tags (see Figure B-15)

**Figure B-14**

Boundary Condition
Figure B-15
Boundary Condition U-Factor Surface Tags
J. Special Cases

- Skylight:
  - To be modeled per the Therm5.2/Window5.2 Simulation User Manual, as well as any published technical interpretations.
    - Jamb (vertical cross sections) property are selected as sill
    - Gravity arrow for Jamb (vertical cross sections) section is selected as ‘Right’
    - Sill and head cross sections should be tilted to represent 20 degree slope
    - Boundary Condition for 20 degree slope to be selected
    - Model for validation testing:
      - Modeled at 90 deg.
      - Jamb gravity arrow (inward)
      - BC (regular BC not 20 deg slope)
  - No CR modeling required for slope products

- Tubular Daylighting Devices (TDD)
  - To be modeled per the Therm5.2/Window5.2 Simulation User Manual, as well as any published technical interpretations.
    - If Test Only product, refer to Section 5 of the IA Operations Manual.

- Site-Built Fenestration Products: Curtain walls, Window Walls, and Sloped Glazing
  - To be modeled per the Therm5.2/Window5.2 Simulation User Manual, as well as any published technical interpretations.
6. **WHOLE PRODUCT – Evaluation (WINDOW5 files):**

1. All options (group leader) modeled
2. Grouped product options
3. Validation test option
4. Special cases

**Figure B-16**

Check for tilt for slope glazing products

Check the Condensation Resistance value.
SHGC₀ and SHGC₁, VT₀ and VT₁ are selected from the product with best case center-of-glass U-factor and worse case total product U-Factor. These values should be compared with the entries in the Upload spreadsheet for verification they are correct.
The Window5 Library may be set up like below:

**Figure B-18**
For slope glazing the validation test option has to be modeled at 90 deg. Glazing also has to be modeled at 90 deg.
Reviewing Optics – Example # 2

(Note: this example is for illustrative purposes and does not establish any new requirements)

Optics5

A. Items to receive from simulator:
   • Optic5 User Database
   • Window5 Database
   • Report shall contain description of Laminate/Film created using Optics5

Laminate Review

Laminates must be from the Approved Interlayer List: Found here: http://windows.lbl.gov/software/window/52/NFRCLaminates.html

A. To review a laminate saved in the user database:
   i. Load the supplied user’s database into Optics
      a) Tools pull down menu
      b) Select Options
      c) Select search button beside the “User Database”
      d) Find and Open correct User Database for review
         NOTE: File must be saved on a local drive and unzipped. The .mdb file cannot be opened from electronic mail format.
      e) Select Apply to set the user’s database
      f) Select OK to close the File Locations box

Figure B-20

(Continued on next page…)
ii. Load the laminate to be reviewed
   a) Select **User Database** from the pull down list to see the records in the user's database
   b) The name of the user's database (as selected through Tools, Options) is displayed on menu bar below

**Figure B-21**

(Continued on next page…)
c) Select the ‘Laminate’ tab above the layer buttons
   
   NOTE: You cannot review laminates in ‘Glazing System’ mode, you must
   switch to ‘Laminate’ mode first.

d) Select the ‘Edit Laminate’ tab in the upper right part of the screen

e) Locate the laminate for review and **Double Click** on the name

1. All layer’s “filename” and spectral data will be displayed in the
   layer button numbers (#) to the left.

2. Additional layers may be available, use the left and right arrow
   buttons to review all layers if applicable.

3. Use the Main Database and the name of the glazing created by
   the simulator to verify the correct substrates and laminates were
   chosen as described in the report.

**Figure B-22**


**Applied Film Review**


A. There are two ways to review films applied to a substrate; check the details on the film or export to a radiance file:

i. Applied Film Change Details
   
   a) Load the supplied user’s database into Optics
      1. **Tools** pull down menu
      2. Select **Options**
      3. Select search button beside the “User Database”
      4. Find and Open correct User Database for review
         a. File must be saved on a local drive and unzipped. The .mdb file cannot be opened from electronic mail format.
      5. Select **Apply** to set the user’s database
      6. Select **OK** to close the **File Locations** box
         (See Figure B-20)
   
   b) Load the Applied Film to be reviewed
      1. Select **User Database** from the pull down list to see the records in the user’s database
      2. The name of the user’s database (as selected through Tools, Options) is displayed on menu bar below
         (See Figure B-21)

   (Continued on next page….)
3. Select the ‘Glazing System’ tab above the layer buttons  
NOTE: You cannot review applied films in ‘Laminate’ mode, you 
must switch to ‘Glazing System’ mode first.
4. Select the ‘Edit Glazing System” tab in the upper right screen
5. Locate the Applied Film for review and **Double Click** on the name
   a. The filename and spectral data will be displayed in the layer 
      button numbers (#) to the left.

**Figure B-23**

(Continued on next page…)
c) Verify the Applied Film and Substrate

1. Select the applied film layer by clicking on the appropriate layer button

2. Choose the Edit menu pull down, select Change Details
   
   a. Or Right Click on the layer button and select Change Details

3. The Change Glazing dialog box will appear.
   
   a. Verify the Substrate Name and Film Name as displayed
   
   b. Verify the side of the glazing the Film was applied to

Figure B-24

(Continued on next page…)
d) Export to a Radiance File
   i. Load the applied film as previously described
   ii. Verify the Applied Film and Substrate
      1. Select the applied film layer by clicking on the appropriate layer button
      2. Choose the *Edit* menu pull down, select **Export xxxx.usr to Radiance File.**
         a. This file will be saved to your C:/Program Files/LBNL/Optics5 folder with the file extension “.rad”
         b. Open file using NotePad or WordPad
         c. The “void” lines will list the NFRC IGDB ID and name of the film applied to the substrate

**Figure B-25**

![Figure B-25](image)
Window5/Optics5 Imported Files

A. Review Laminate/Applied Film created in Optics5 is properly included in Window5 for calculation:
   i. Open Optics5, and load the Laminate/Applied Film as described previously
   ii. Open Window5 file used for whole product calculations
      a) Find the imported user's laminate/applied film (the Glass ID should be a number starting at 30,000 or higher, but will not necessarily match the Optics5)

(Continued on next page….)
iii. Verify the Laminate spectral properties imported into Window5 match that of the Optics5 file.

Figure B-27

iv. Verify the Applied Film spectral properties imported into Window5 match that of the Optics5 file.

Figure B-28
APPENDIX C

IA Plant Inspection Checklist
(Recommended checklist for conducting plant inspections)

Pre-Inspection Checklist

Manufacturer/Plant Contact information:
- Licensee Name (Responsible party/Manufacturer name):
- Licensee Contact Name:
- Licensee alternate contact name:
- Licensee Address:
- Licensee Telephone Number:
- Licensee Fax:
- Licensee Email:
- Plant Name:
- Plant Contact Name:
- Address (facility to be inspected):
- Telephone Number:
- Fax:
- Email:
- Date of Inspection:
- IA inspector Name:

(Verify if the above manufacturer information is correctly listed in the Schedule I and the Certified Products Database)

Product Information:
- Print out the product line listing report from NFRC database for the licensee whose facility/plant is to be inspected.
- Print out the Schedule II report and compare the products listed to the active product line listing from the NFRC database; discrepancies found, if any, should be verified, and discussed during inspection.
- Prepare a list of product lines to be inspected during the inspection. Have an individual inspection-checklist for each product line to record observations and findings.
- Copy of the Simulation Reports and Test Reports for product lines to be inspected.
- Copy of the CAR for product lines to be inspected.
• List of non-compliances, if any, from previous inspection to verify that non-compliance has been corrected.

**Inspection Equipment:**
- Camera to record non-compliance.
- Equipment for measurements such as calipers and tape measure
- Equipment to measure IG-Unit glass thickness and gap width.
- Equipment to verify the presence of Low-E and placement of the coating in an IG unit, e.g., Emissometer (capable of determining the surface of low emissivity coatings)

**During Plant Inspection - Checklist**

- Verify plant and contact information. If there are any changes, communicate those changes to NFRC staff.
- Verify information provided in the Schedule I and II report in relation to the plant location being inspected.
  - Is plant location listed on the Schedule I?
  - Are the authorized products listed on the Schedule II for the plant location, the same products being produced there?
  - If any discrepancies are found, report discrepancy to NFRC and require manufacturer to update in CPD.

**Quality Control Program**

- Verify in-house Quality Control Program, as defined in the NFRC 700. Document procedures to follow meet compliance. Obtain copy/updates of manufacturer’s quality control procedures related to NFRC certification.
  - Review work order process
  - Review incoming material inspection/rejection QC procedure
  - Review in-line process QC procedure to maintain quality
  - Review final assembly inspection/corrective action/rejection process
  - Review the process for accurate selection and application of NFRC labels
- All QC records shall be retained for a period of four years.
- Obtain the name of the persons in charge of the quality control program and/or NFRC labeling.
- Determine how the quality control procedures are implemented and if the responsible person at the facility is well-informed and trained for following the process.
- QC procedures shall be documented and be available to all responsible persons at the plant.
- The QC program shall include procedures for accepting or rejecting incoming material.
- The QC program shall include procedures for addressing and resolving product complaints.
- The QC program shall include procedures for controlling, calibrating, and maintaining inspection and test equipment used by plant personnel.
- The QC program shall include a method for handling non-conforming materials.
• The QC program shall include internal quality audits.

**Assembly Components**

• Verify that all components used in the product assembly are equivalent to those materials used in the simulation report.
  o Spacer – type and dimensions
  o Divider – material and dimensions
  o Frame – frame and sash components, material, and geometry
  o Sealant – primary and secondary sealant material

**Glazing Unit**

• Verification of IG Certification
  o Verify that IG units labeled in product line have been certified through a listed NFRC IG Certification Program
  o The manufacturer shall provide documentation proving IG Certification.

• Verification of Quality Assurance requirements are being maintained for IG Certification
  o Verify the quality and effectiveness of the various components of the products and confirm that the IG fabricators’ records identify its' component, verification method, success\failure, and the frequency of its inspections
  o Verify inspections are conducted of final products and the frequency of rejection and inspection of products are indicated
  o Verify calibration and the documentation of frequency
  o Verify there is a method to maintain controlling non-conforming product components and fabricated products; and
  o Verify training records have been created, retained and maintained.

• Verification of Glazing Unit
  o Manufacturer of Glass
  o Manufacturer of glazing unit
  o Number of glazing panes in the unit
  o Glass type, tint and thickness
  o Capillary or breather tubes
    • Is the tube pinched after gas fill or at field (if in field then confirm the use of air for simulation modeling)
  o Identify the Gap Width
  o Obtain a copy of the Purchase Order from manufacturer to determine if any substitution of the glazing is done over reasonable period of the inspection intervals
  o Verification of Low E glass manufacturer and model

• Verification of the use of gas- Argon, Krypton and other gas fills
  o Inspection and verification that the gas-fill technique is equivalent to that specified in the simulation report
  o Inspection and verification that the gas-fill equipment is operating correctly
  o Inspection of recent gas-fill invoices or Verification that the responsible party has on record a letter indicating the gas-fill process and percentage from the supplier of sealed insulating glass units. Obtaining copy(s) of the Purchase Order to record the use

**Glass Collapse**
• Verify that the gap width reduction does not exceed the allowable reduction widths. The IA shall check the center of glass gap width reduction for IG units used in NFRC Certified Products during each In-plant inspection
  o Edge of Glazing gap measurement (within 1” of the site line)
  o Center of glazing gap measurement
• At least three randomly selected units shall be checked during the inspection.
• Gap Width Reduction shall:
  o Be measured in the vertical or near vertical position
  o Be calculated by subtracting the center of glass gap measurement from the gap measured as near to the glass edge as possible
  o Be performed indoors on new, finished products at ambient temperature and pressure
  o Be measured on a window size similar to the NFRC test size requirement
  o Be measured to an accuracy of 1 mm
• Permitted Gap Reduction:
  o ≤ 13 mm (1/2”) design gap, 3 mm (1/8”) maximum reduction permitted
  o > 13 mm (1/2”) design gap, 6 mm (1/4”) maximum reduction permitted
  o There shall be no contact between glazing layers and components (e.g., divider and glass) except as noted
  o NOTE: Contact with buttons serving as grid locators are permitted
• At least three randomly selected units shall be checked during inspection
  o If one of the three units checked fails to comply with the permissible gap width reduction allowed, ten additional units shall be inspected
  o If one of the ten additional units inspected fail to comply with the permissible gap width reductions allowed, notify the manufacturer/responsible party of this deficiency in the inspection report

Divider (Grids)
• Inspection of grid system(s) for their application. Internal grids shall meet the minimum clearance tolerance as defined in NFRC 100 (3 mm or 0.118 in.) if not simulated. If due to glass collapses the gap is less than 3mm recorded the observation and report to NFRC.
• If Grid (Divider) is simulated in a glazing unit and gap is reduced to make contact of dividers due to glazing collapse recorded the observation and report to NFRC.
• Glazing option included in the simulation matrix and CAR. SHGC and VT representative of the glazing system used (except when grouping rules of NFRC 200 is used in which case be representative in accordance with NFRC 200 rules.)
• Divider width and material

Spacer System
• Verification of spacer system(s) to assure compliance with simulation report. Can be done through verification of purchase orders of component material and sealants and/or visual verification
  o List spacer type
  o Sealant used - primary and secondary

Labels:
• Inspection of finished units for accuracy of assembly and labeling requirements
- Get copies of the labels to document compliance with NFRC-700, “PCP”
- Verify compliance of the Temporary Label with NFRC 700 and CAR
- Verify compliance of the Permanent Label with NFRC 700 and CAR
- Identify where the permanent label is affixed
- Verify product line series name is the same as listed in the NFRC CPD
- Verify the CPD number listed (even if sold by entity other than the licensee)

- Label confirms to the format specified in NFRC-700 and was approved by the IA
  - At minimum all mandatory ratings specified on the label, U-factor, SHGC and VT. Additional ratings shall be added to the label in alphabetical order, moving left to right. In the event that a label contains a box without a rating, the box shall be left blank except for a dash.
  - Label width and/or height shall not be less than 3.75 inches nor greater than 6 inches
  - The width may be no greater than the height

- Format to compliance
  - The 2003 one-size labels shall not be used after April 1, 2006
  - The term "RES97" shall not be used
  - The use of the metric label (2010) shown in Figure B-11A and B-11B were approved in the November 2009 Membership Meeting

- Requirements and optional information description be verified on a NFRC labeled unit’s glazing. NFRC 700 section B.5 and B.6
- Verify label usage monthly/quarterly/yearly and if reported to the IA accurately
- Review and inspection of certification label control techniques (get a copy of the CAR for comparison)
- Verification that any production line test sample units(s) submitted for testing are ordered through the normal in-plant work scheduling system. (get paperwork showing this is true)

Exit Interview:
- Compliance verification of previous inspection if any.
- Perform an Exit Interview with the responsible person at site
  - Report all non-conformances and recommended findings.
  - Clearly identify the time frame for meeting compliance as indicated in NFRC 700
  - Means to ask for extension to meet compliance
  - Consequences of non-compliance
  - Appeals procedure.
- Obtain signature of the responsible party on the inspection form statement that he/she agrees with the inspectors finding and have understood the consequences on non-compliance if not addressed in due time frame. He/she also understands the rights to appeal procedure.

NFRC Post Inspection Checklist

- Update the Certified Products Database for information related to plant inspection. Add any additional comments in the comments field as necessary.
- Report actions to be taken, if any, by Licensee to continue with the certification.
- Generate a formal report and issue the report to the manufacturer with a copy to NFRC no later than fifteen (15) days after conducting the in-plant inspection.
- The manufacturer is to provide a written representation not later than fifteen (15) business days after the date of the IA's report, with a copy to NFRC, of any corrective actions taken by the facility/plant responsible party.