



TEXAS DEPARTMENT OF INSURANCE

Regulatory Policy Division - Engineering Services Program (103-3A)

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Submittal Requirements for Product Evaluation Curtain Wall and Storefront Systems

The Texas Department of Insurance uses the information and product requirements requested below to develop a product evaluation report for Curtain Wall and Storefront Systems for use in the designated catastrophe areas along the Texas Gulf Coast. The product evaluation report will identify the product, describe the tested assembly, specify the allowable design pressure limitations, specify the wind zones where windborne debris resistant products may be used (if applicable to the product), specify the applicable design drawings, and specify the applicable installation requirements. There is no fee for TDI to evaluate the product. TDI does not intend for this evaluation to preclude a Texas licensed professional engineer from using testing information or ICC evaluation reports that have not been submitted to the TDI for certifying compliance with the building specifications adopted by the TDI.

1.0 Minimum Information Required for Evaluation

Provide the requested information in a complete and organized package. Mail the package to TDI's address shown at the top of this document. The submittal must include a cover letter and the substantiating information specified in Section 5.0. The cover letter must include the following:

- 1.1 Full name and address of manufacturer.
- 1.2 Manufacturer's engineering or technical representative contact, including telephone number, fax number, and e-mail address.
- 1.3 Manufacturer's contact phone number for local sales information.
- 1.4 The name (model, series number, etc) of the product(s) for TDI to evaluate and list.
- 1.5 Indicate whether the products are impact resistant or non-impact resistant.
- 1.6 A description of the substantiating information as specified in Section 5.0 for each product included in the submittal.
- 1.7 Optional: Provide an electronic version of a draft TDI product evaluation report.
- 1.8 Drawings that illustrate the construction, dimensions, installation, and design pressure ratings of the product(s) and are consistent with the submitted test data. The evaluation report will reference the drawings. Provide one hard copy of the drawings and one PDF copy saved on a CD. TDI will post the PDF copy of the drawings on the TDI website with the evaluation report.
- 1.9 Indicate if the submitted information is regarding a new product evaluation or the revision of an existing evaluation. If the information is for a revision, please indicate the existing TDI evaluation number.

2.0 Building Code Requirements for Products

- 2.1 TDI will evaluate the products according to the wind load criteria of Chapter 3 of the 2006 International Residential Code (IRC); the wind load criteria of Section 1609 of the 2006 International Building Code (IBC); test standards and performance criteria specified in the IRC and the IBC; and nationally recognized test standards or procedures.
- 2.2 Basic design wind speed requirements for construction in the designated catastrophe areas along the Texas Gulf Coast are as follows:
 - ❖ Inland II Zone: 110 mph, 3-second gust
 - ❖ Inland I Zone: 120 mph, 3-second gust
 - ❖ Seaward Zone: 130 mph, 3-second gust

- 2.3 Include the design pressure requirements. The curtain wall and storefront assembly must have a minimum design pressure rating of 25 psf. Refer to either Table R301.2(2) of the IRC or ASCE 7 for design wind pressure requirements. The manufacturer should consider that Exposure B and C conditions can occur in each wind zone.
- 2.4 For construction in the Inland I Zone, design glazed exterior opening products to resist windborne debris or provide protection from windborne debris by an impact protective system. For construction in the Seaward Zone, design all exterior opening products to resist windborne debris or provide protection from windborne debris by an impact protective system.

3.0 Product Applicability and Limitations of Evaluation Report

- 3.1 Evaluation of a product does not constitute approval of the product for use on all structures. The design pressure rating of the product (as reported in the TDI evaluation) must exceed the required design pressure required for the specific structure. In addition, the windborne debris resistance rating for the product (as reported in the TDI evaluation) must comply with the required windborne debris criteria for the specific structure.
- 3.2 The TDI will develop the product evaluation report based on the manner in which the product was tested. This includes the attachment of the product to the test buck and the material used for the test buck. NOTE: Test products as they are installed in the field. Test products with a test buck or framing utilizing common framing materials and attach to the test buck or framing with readily available, commonly used fasteners.
- 3.3 TDI permits fastener analysis for alternative installation methods. Analysis should demonstrate equal or greater withdrawal and/or shear resistance of the fasteners into the alternative substrate (wood, concrete, concrete block, or metal) to the withdrawal and/or shear resistance of the fasteners into the tested substrate. The spacing of the fasteners into the alternative substrates must not exceed the spacing of the fasteners into the tested assembly. If increasing the fastener spacing from the spacing in the tested assembly, verify with a test.
- 3.4 Acceptance of Other Window Assemblies:
 - 3.4.1 Stack multiple window panels side-by-side (separated by a vertical mullion) as long the as it does not exceed the rectilinear dimensions of the daylight opening sizes of the tested window panels, you have tests for at least three window panels joined with a vertical mullion, and you do not exceed the linear dimension of the vertical mullion in the tested assembly.
 - 3.4.2 Stack multiple window panels vertically (separated by a horizontal mullion) as long as it does not exceed the rectilinear dimensions of the daylight opening sizes of the tested window panels, you have tests for at least two window panels joined with a horizontal mullion, do not exceed the linear dimension of the horizontal mullion in the tested assembly, and do not exceed the linear dimension of the vertical mullion in the tested assembly.
 - 3.4.3 TDI can develop separate evaluation reports for door and window assemblies. Evaluation reports and their associated design drawings for window assemblies can reference evaluation reports for door assemblies so that they can be utilized together. Design drawings must indicate how to join the window and door assemblies together, secure to the substrate, and design pressure limitations.
- 3.5 Fabricate curtain wall and storefront assemblies in a factory and assemble and glaze at the jobsite. As such, for those curtain wall and storefront assemblies that are assembled and glazed at the job site, a label from an inspection agency (such as AAMA, WDMA, NAMI, or Keystone) for compliance with AAMA/WDMA/CSA 101/I.S.2/A440 is not required. When the assembly is not certified by an inspection agency, the product manufacturer will develop and apply labels required for identification and performance to the assembly.

4.0 Testing and Test Report Minimum Information Requirements

- 4.1 Testing facilities that develop test reports must comply with one of the following:
 - 4.1.1 The test facility must be either UL (Underwriters Laboratories) or FM (Factory Mutual);

- 4.1.2 International Code Council Evaluation Service (ICC-ES) must recognize the test facility as specified in ICC-ES Acceptance Criteria AC85;
- 4.1.3 AAMA or WDMA must accredit the test facility;
- 4.1.4 Miami-Dade County, Florida must recognize the test facility; or
- 4.1.5 TDI may accept the test facility. TDI will accept test facilities that are accredited as complying with ISO/IEC Standard 17025 by the International Accreditation Service (IAS) or by any other accreditation body recognized by the International Laboratory Accreditation Cooperative (ILAC) Mutual Recognition Agreement (MRA). The scope of the accreditation must include the type of testing covered in the submitted test reports.

Manufacturer's test facility: If the manufacturer performs in-house testing, then the manufacturer must conduct the testing under the supervision of an independent testing facility that qualifies under Sections 4.1.1 through 4.1.5. The supervising party must prepare and issue the test report.

TDI reserves the right to request that the testing facility provide documentation to verify compliance with Sections 4.1.1 through 4.1.5.

- 4.2 Test the curtain wall and storefront assembly in accordance with ASTM E 330.
EXCEPTION: The curtain wall and storefront assembly may be tested in accordance with Dade County, Florida protocol TAS-202.
- 4.3 The curtain wall and storefront assembly may also be tested in accordance with ASTM E 1886 and ASTM E 1996.
EXCEPTION: The curtain wall and storefront assembly may be tested in accordance with Dade County, Florida protocols TAS-201 and TAS-203.
- 4.4 The curtain wall and storefront assembly must bear a label. The curtain wall and storefront assembly is not required to bear a label from an inspection agency unless they are certified and listed with an inspection agency (such as AAMA, NAMI, WDMA, or Keystone). In such a case, submit a copy of the inspection agency label and certification document. If the curtain wall and storefront assemblies are not listed with an inspection agency, then the manufacturer must provide a manufacturer-produced label. In all cases, the label must include: (1) the name of the product, (2) the name of the product manufacturer; (3) the design pressure rating for the assembly; (4) the tested dimensions of the assembly; and (5) compliance with ASTM E 330. If the product is tested for windborne debris resistance, then the labels must also indicate compliance with ASTM E 1886 and ASTM E 1996 and the missile level.
EXCEPTION: Curtain wall and storefront assemblies tested in accordance with Dade County, Florida protocols TAS-201, TAS-202, and TAS-203 must include these test standards on the label.
- 4.5 The independent test laboratory must develop the test report. The test report shall include the following minimum information:
 - Date of testing
 - Date of report
 - Test standards for which the product was tested
 - Description of the product to include model, series, or product name.
 - Overall dimensions of the tested assemblies.
 - Component dimensions of the tested assembly (such as sash or vent sizes)
 - Sizes of the fixed daylight openings.
 - Frame construction and mullion construction.
 - Glass constructions and glazing methods.
 - Hardware description (manufacturer, model or series for deadbolts, lock sets, and panic devices; quantity; locations; and methods of attachment)
 - Reinforcement requirements (material, dimensions, and location in the assembly)
 - The material used for the test buck (concrete (compressive strength), wood (S.G.), concrete block (compressive strength), or metal (type, gauge thickness, yield strength))

- Description of fasteners used during testing to secure the product to the test buck. Include fastener type, size, length, spacing, and locations.
- Test result criteria as required by the applicable test standard.

5.0 Substantiating Information

- 5.1 Include the following information as part of each product's submittal package:
- Cover letter as described in Section 1.0.
 - Test reports in accordance with ASTM E 330, ASTM E 1886, and ASTM E 1996 (or TAS-201, TAS-202, TAS-203). Test report in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 if applicable.
 - Lab stamped drawings that reference the test report numbers.
 - Include a copy of the assembly's label as described in Section 4.4.
 - If applicable, include a copy of the certification document from the inspection agency for the tested product. Examples include the following:
 - Authorization for Product Certification (AAMA)
 - Notice of Product Certification (NAMI)
 - Hallmark Certificate of Conformance and License (CCL) (WDMA)
 - Certification Authorization Report (CAR) (Keystone)

NOTE: The label provided must match the criteria specified on the certification document.
 - Installation instructions.
 - A complete copy (PDF copy on either CD or DVD) of any calculations or analysis associated with the development of the design drawings associated with the installation of the curtain wall and storefront assembly product. A Texas licensed professional engineer must sign, seal, and date the calculations.
- 5.2 Provide one hard copy and one PDF copy of the design drawings on a CD or DVD. The design drawings must include dimensioned elevations of the tested assemblies and reference to acceptable optional assemblies that are based on the tested assemblies. A Texas licensed professional engineer must sign, seal, and date the design drawings. TDI will reference the design drawings in the evaluation report and will post the drawings on the TDI Windstorm Inspections Program Product Evaluation Index website.

6.0 Expiration and Renewal of Evaluation Reports

- 6.1 If applicable, certification of the product by the inspection agency must be current.
- 6.2 TDI will utilize a test report as long as the test report is current, the test standards that the product was tested to have not changed, the test standards for the product required by the building specifications adopted by TDI have not changed, the product specified in the test report has not changed, and, if applicable, the product is certified by the inspection agency.
- 6.3 TDI reserves the right to request verification from the product manufacturer that the product specified in the test report has not changed.
- 6.4 If the test report indicates an expiration date and the test report is expired, then the test report must be revised to either remove the expiration date, change the expiration date, or add a record retention date.
- 6.5 If the test report indicates an expiration date and the test report is within six months of expiring, then TDI reserves the right to request that the test report be revised to either remove the expiration date, change the expiration date, or add a record retention date.
- 6.6 For an initial product evaluation, if the test report does not indicate an expiration date or if it specifies a record retention date, then TDI reserves the right to refuse to utilize the test report if the test laboratory is not able to provide information relative to the testing of the product specified in the test report.
- 6.7 For the renewal of an existing product evaluation, if the test report does not indicate an expiration date or if it specifies a record retention date, then TDI may continue to utilize the test report if no changes have occurred in the product.

- 6.8 The evaluation report will expire four years from the effective date of the evaluation report or, when the test report expires, or, if applicable, when the certification from the inspection agency (AAMA, WDMA, NAMI, or Keystone) of the products listed in the evaluation report expires, whichever is less time.
- 6.9 The expiration date for the evaluation report must be based on the date the product was tested as indicated in the test report.
- 6.10 The evaluation report will indicate the month and year of the expiration date.