



## TEXAS DEPARTMENT OF INSURANCE

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

333 Guadalupe, Austin, Texas 78701 ★ PO Box 149104, Austin, Texas 78714-9104  
(800) 248-6032 | F: (512) 490-1043 | TDI.texas.gov | @TexasTDI

## Submittal Requirements for Product Evaluation – Shutters

The Texas Department of Insurance (TDI) will use the information and product requirements requested below to develop a product evaluation report for shutters for use in the designated catastrophe areas along the Texas Gulf Coast. The product evaluation report will identify the product, specify the maximum design pressure limitations, specify the wind zones where windborne debris resistant products may be used (if applicable to the product), specify the applicable component dimensions, describe the tested assembly, specify the applicable installation methods, and specify the fastener specifications used. There is no fee for the evaluation of the product by the TDI. This evaluation is not intended 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.

### Exceptions:

- **Wood Structural Panel Shutters:** Wood structural panel shutters for use in the **Inland I zone**. Install in accordance with Exception 1 of Section R301.2.1.2 of the 2006 Texas Revisions to the 2006 International Residential Code or Exception 1 of Section 1609.1.2 of the 2006 Texas Revisions to the 2006 International Building Code. These shutters are not required to be tested for windborne debris resistance. An evaluation report is not developed for these shutters.

Wood structural panel shutters that are used in the **Seaward Zone** shall be comply with Exception 2 of Section R301.2.1.2 of the 2006 Texas Revisions to the 2006 International Residential Code or Exception 3 of Section 1609.1.2 of the 2006 Texas Revisions to the 2006 International Building Code. These shutters are required to be tested for windborne debris resistance. An evaluation report will be developed for these shutters.

### 1.0 Minimum Information Required for Evaluation

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Provide the information requested in the form of a complete and organized package. Mail the package to TDI at the address 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 needs to include the following:

- 1.1 The manufacturer's full name and address
- 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)
- 1.5 A description of the substantiating information as specified in Section 5.0 for each product included in the submittal
- 1.6 Optional: Provide an electronic version of a draft TDI product evaluation report.
- 1.7 Drawings that illustrate the construction, installation, and design pressure ratings of the product(s) and are consistent with the submitted test data. Drawings will be referenced in the evaluation report. Provide one hard copy of the drawings and one PDF copy saved on a CD. TDI will post the drawings on the TDI website with the evaluation report.
- 1.8 Indicate if the submitted information is for 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 or submittal ID number.

## 2.0 Building Code Requirements for Products

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- 2.1 TDI will evaluate the products by the 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; performance criteria; and labeling requirements referenced in the IRC and the IBC and the Texas Revisions to 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 Design Pressure Requirements: The shutter product must have a minimum design pressure rating of 25 psf. Refer to either Table R301.2(2) of the IRC, Table R301.2(4) of the 2006 Texas Revisions to the 2006 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 Windborne Debris Requirements: For construction in the Inland I Zone, either 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. Windborne debris protection is not required for the Inland II zone.
- 2.5 Wood Structural Panel Shutters: In accordance with either Exception 2 of Section R301.2.1.2 of the 2006 Texas Revisions to the 2006 International Residential Code or Exception 3 of Section 1609.1.2 of the 2006 Texas Revisions to the 2006 International Building Code, product evaluation reports developed for wood structural panel shutters require a minimum of 15/32" plywood (even if tested with a thinner material or with OSB) and installed on one- and two-story buildings (even if the resultant design pressure from the testing would permit a higher installation height).

## 3.0 Product Applicability and Limitations of Evaluation Report

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- 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 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 would be installed. Test products with a test buck or framing utilizing common framing materials and be attached to the test buck or framing with readily available, commonly used fasteners.*
- 3.3 Fastener Analysis for Alternative Substrates: TDI permits fastener analysis for alternative installation methods. TDI permits fastener analysis if the shutters are tested secured to concrete block. Analysis must demonstrate equal or greater withdrawal and/or shear resistance of the fasteners into the alternative substrate (wood, concrete, or metal) to the withdrawal and/or shear resistance of the fasteners into the tested substrate (concrete block). The spacing of the fasteners into the alternative substrates must not exceed the spacing of the fasteners into the tested assembly. Verify increasing the fastener spacing from the spacing used in the tested assembly with a test.
- 3.4 Mounting Conditions: Test each mounting condition for the shutter assembly (such as wall mount, inside mount, built-out, etc.) shall be tested for uniform static load resistance and for impact/cyclic resistance. Mounting conditions in a test specimen (such as wall mount at the top of the specimen and inside mount at the bottom of the test specimen).
- 3.5 Shutter Offset Distance: Base requirements for determining whether a shutter needs to be offset from a fenestration assembly on Section 3.2.8, Section 5.5, and Section 8.3 of ASTM E 1996-04.

#### 4.0 Testing and Test Report Minimum Information Requirements

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- 4.1 Testing facilities that comply with one of the following must develop the test reports:
- 4.1.1 The test facility must be either UL (Underwriters Laboratories) or FM (Factory Mutual);
  - 4.1.2 The test facility must be recognized by the International Code Council Evaluation Service (ICC-ES) as specified in ICC-ES Acceptance Criteria AC85;
  - 4.1.3 The test facility must be recognized by Miami-Dade County, Florida; or
  - 4.1.4 The test facility must be accepted by TDI. 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 a qualified independent testing facility must supervise the testing. The supervising party must prepare and issue the report.

TDI reserves the right to request that the testing facility provide documentation to verify compliance with Sections 4.1.1 through 4.1.4.

- 4.2 Uniform Static Load Resistance: Test shutters in accordance with ASTM E 330.  
EXCEPTION: Test shutters in accordance with Dade County, Florida protocol TAS-202.
- 4.3 Windborne Debris Resistance: Test the shutter in accordance with ASTM E 1886 and ASTM E 1996.  
EXCEPTION: Test shutters in accordance with Dade County, Florida protocols TAS-201 and TAS-203.
- 4.4 Label: The shutters are required to bear a label. The shutters are 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 shutters are not listed with an inspection agency, then provide the manufacturer a manufacturer-produced label. In all cases, the label shall include: the name of the product, the name of the product manufacturer; the design pressure rating for the shutter; the tested dimensions of the shutter; and compliance with ASTM E 330, ASTM E 1886 and ASTM E 1996.

EXCEPTION: Shutters tested in accordance with Dade County, Florida protocols TAS-201, TAS-202, and TAS-203 shall include these test standards on the label.

- 4.5 Test Reports: The test report shall be developed by the independent test laboratory. 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 assembly
  - Component dimensions of the tested assembly (such as panel or slat or fabric dimensions and thickness)
  - Description of the tested assembly (including horizontal tracks, vertical tracks, slats, panels, and fabric)
  - Component construction (panel, slat, track, and fabric construction (material specifications))
  - Hardware description (lock assemblies, anchors), type, quantity, method of attachment (fastener type, size, quantity), and locations
  - Reinforcement requirements (material, shape, dimensions, and location in the assembly)
  - The species of the lumber used for the test buck (the lumber that the shutter was secured to during testing). If tested to concrete or CMU, the compressive strength of the concrete or CMU

- Description of fasteners used during testing to secure the product to the test buck. Include fastener type, size, length, and spacing
  - Test result criteria as required by the applicable test standard
  - Deflection of the assembly (maximum deflection and residual deflection)
- 4.6 Safety Factor: TDI will apply an appropriate safety factor to the test loads specified in the test reports.

## 5.0 Substantiating Information

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- 5.1 Include the following information as part of the submittal package for each product:
- Cover letter as described in Section 1.0
  - Test report in accordance with ASTM E 330, ASTM E 1886 and ASTM E 1996 (or TAS-201, TAS-202, and TAS-203)
  - Lab stamped drawings that reference the test report number
  - Copy of the label that will be applied to the shutter product. The label shall be in accordance with Sections 4.4 document
  - 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 shutter product. A Texas licensed professional engineer must sign, seal, and date the calculations.
  - Installation instructions.
- 5.2 Design Drawings: Provide hard copy and PDF copy of the design drawings on a CD or DVD. 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 TDI Windstorm Inspections Program Product Evaluation Index website.

## 6.0 Expiration and Renewal of Product Evaluation Reports

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- 6.1 The 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 the TDI have not changed and, the product specified in the test report has not changed.
- 6.2 The TDI reserves the right to request verification from the product manufacturer that the product specified in the test report has not changed.
- 6.3 If the test report indicates an expiration date and the test report is expired, then revise the test report to either remove the expiration date, change the expiration date, or add a record retention date.
- 6.4 If the test report indicates an expiration date and the test report is within six months of expiring, then the TDI reserves the right to request a revised test report to either remove the expiration date, change the expiration date, or add a record retention date.
- 6.5 For an initial product evaluation, if the test report does not indicate an expiration date or if it specifies a record retention date, then the 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.
- 6.6 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 the TDI may continue to utilize the test report if no changes have occurred in the product.
- 6.7 The evaluation report will be subject to re-evaluation a maximum of four years from the effective date of the evaluation report. The reevaluation date in the evaluation report could be less than four years from the effective date of the evaluation report, depending on the date of test specified in the test report, if the test report has an expiration date, or if the certification of the product through an inspection agency expires.
- 6.8 The evaluation report will indicate the month and year of the reevaluation date.