



TEXAS DEPARTMENT OF INSURANCE

Regulatory Policy Division - Loss Control Program (103-9A)

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Submittal Requirements for Product Evaluation Garage Doors and Rolling Doors

The Texas Department of Insurance (TDI) uses the information and product requirements requested below to develop a product evaluation report for garage doors and rolling doors 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.

1.0 Minimum Information Required for Evaluation

Provide the information requested in the form of a complete package. Mail the package to TDI at the 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 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 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 Furnish a written description of the major components each garage door or rolling door product in an electronic format (Microsoft Word). As an alternative, the submitter can submit an electronic version of a draft TDI product evaluation report with the package.
- 1.8 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 Products will be evaluated by the TDI 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 Determine design pressures for garage doors or rolling doors in accordance with either Table R301.2(2) of the IRC, Table R301.2(4) of the Texas Revisions to the IRC, or ASCE 7. The manufacturer should consider that Exposure B and C conditions can occur in each wind zone. The minimum design pressure rating

required to develop an evaluation report is +18.3 psf and -20.4 psf (based on 110 mph, Exposure B from Table R301.2(4) of the Texas Revisions).

- 2.4 For construction in the Inland I Zone, glazed exterior opening products must either be designed to resist windborne debris or be protected 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 TDI evaluation) must meet or 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 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: *Where possible, test products as they would be installed in the field. Test products with a test buck or framing (Spruce-Pine-Fir dimension lumber recommended) utilizing common framing materials and be attached to the test buck or framing with readily available, commonly used fasteners. For products installed to framing and/or with fasteners other than as tested, a rational analysis shall be submitted by a Texas licensed professional engineer. The rational analysis shall include the acceptable alternative framing material and/or fasteners required for installation. If the track attachment spacing exceeds that of the tested assembly, then the rational analysis shall include a check of the track bending stress and the track bending deflection to verify that they are within allowable limits.*
- 3.3 If the brackets for the vertical tracks will be secured to a wood jamb, then an submit analysis to TDI for the attachment of the wood jamb to the wall framing of the structure. Note: Utilize DASMA Technical Data Sheet #161 to perform the analysis. The analysis must include the following information:
- The allowable design pressure or door model that is applicable
 - The maximum door width
 - The species required for the wall framing. If the wall framing is concrete or masonry, specify the minimum compressive strength
 - The size, species, and grade of the face jamb lumber
 - The type and size of fasteners required to secure the wood jambs to the wall framing
 - The quantity of fasteners required
 - The minimum edge and end distances for the fasteners on the wood jamb
 - The minimum distance from the edge of concrete or masonry wall framing
 - The minimum penetration depth of the fasteners into the wall framing
 - A Texas licensed professional engineer must sign, seal, and date the analysis

4.0 Testing and Test Report Minimum Information Requirements

- 4.1 A testing facilities that comply with one of the following must develop the test reports:
- 4.1.1 The test facility shall be either UL (Underwriters Laboratories) or FM (Factory Mutual);
- 4.1.2 The test facility shall 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 shall be accredited by either AAMA or WDMA;
- 4.1.4 The test facility shall be recognized by Miami-Dade County, Florida; or
- 4.1.5 The test facility shall 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 shall 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 shall have the testing conducted either under the supervision of an independent testing facility that qualifies under Sections 4.1.1 through 4.1.5 or the manufacturer's facility shall qualify under Sections 4.1.1 through 4.1.5 and the test shall be conducted under the supervision of a Texas licensed professional engineer. The Texas licensed professional engineer shall provide a statement of independence from the test facility. The test report shall be prepared by and issued by the supervising party. The Texas licensed professional engineer shall sign, seal, and date 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 Uniform Static Air Pressure: Doors shall be tested in accordance with either ASTM E 330 or ANSI/DASMA 108 and shall meet the acceptance criteria of ANSI/DASMA 108. **EXCEPTION:** Doors may be tested in accordance with Miami-Dade County, Florida protocol TAS-202 and shall comply with the pass/fail criteria established by Miami-Dade County, Florida for these protocols.

- Test one door for each door model, type of reinforcing method, and thickness of steel door panels/slats.
- Doors tested with one thickness of door panel/slat shall qualify identical doors with thicker door panels without additional tests.
- Doors tested with one embossed door panel/slat style shall qualify identical doors with different embossed door panel/slat styles without additional tests.
- Doors tested with panels without insulation shall qualify identical doors with door panels with insulation without additional tests.
- The span tested shall determine the maximum allowable design pressure for that door span.
- The maximum door height shall be limited to three times the height of the door tested. If the tested door has vertical reinforcing struts or locks that engage the top or bottom of the door, the maximum door height shall be the tested door height.
- The maximum height of any individual section in the tested door shall be the maximum individual section height allowed.
- Rational analysis is permitted to provide higher allowable pressures for lesser spans and lower allowable pressures for greater spans, with respect to the span tested. Refer to Section 4.3 regarding rational analysis.
- Test doors that have glazed openings with each type of glazing, the maximum glazed opening dimensions, and the minimum strength glazing desired.
- Test doors that have ventilators (louvers) with the maximum ventilator size dimensions. Doors with more than 25 percent of the door area containing ventilation are not permitted in the Inland I and the Seaward zone. Doors with more than 25 percent of the door area containing ventilation that are to be installed in the Inland II zone are not required to be tested to uniform static air pressure.
- Mount doors in a test frame using the installation hardware.

4.3 Rational Analysis for Doors Tested to Uniform Static Load Only: TDI permits higher allowable pressures for lesser spans and lower allowable pressures for greater spans with respect to the span tested, using rational analysis, in accordance with the following:

- Perform the rational analysis in accordance with established principals of engineering mechanics and sound engineering practices.
- A Texas licensed professional engineer must sign, seal, and date the rational analysis.
- The span tested shall be a representative door span produced and marketed in volume by the door manufacturer.
- TDI reserves the right to limit the number of door spans (both greater spans and lesser spans) that have been extrapolated from the span tested.

- Base the allowable pressures extrapolated for lesser and greater spans from the tested span on the lesser of: pressure based on bending stress, the total pressure acting against the door, and pressure based on tensile stress (rolling doors) where applicable.
- The load acting on each doorjamb for the extrapolated door sizes shall not exceed the load acting on each doorjamb of the tested span.
- The construction of the door assemblies for greater and lesser spans must be, as a minimum, the same as the tested span. The number of struts per section and the attachment method and spacing of the strut attachments shall be the same.
- If the tested span has glazing or ventilators, then that glazing (type, construction, dimensions, glazing method, method of attachment to door section) or that ventilator (type, construction, dimensions, method of attachment to door section) is not permitted in lesser spans with higher allowable pressures.
- If the tested span has glazing or ventilators, then that glazing (type, construction, dimensions, glazing method, method of attachment to door section) or that ventilator (type, construction, dimensions, method of attachment to door section) is permitted in greater spans with lower allowable pressures.

4.4 Windborne Debris Testing: If a door product is to be listed as windborne debris resistant, then in addition to complying with Section 4.2 of this document, test the door product shall in accordance with either ASTM E 1886-04 and ASTM E 1996-04 or ANSI/DASMA 115. **EXCEPTION:** Test doors in accordance with Miami-Dade County, Florida protocols TAS-201 and TAS-203 and shall comply with the pass/fail criteria established by Miami-Dade County, Florida for these protocols.

- Test three doors for each door model, type of reinforcing method, and thickness of steel door panels. The doors must be full size. Each door must be identical in construction, in components, and in dimensions.
- Doors tested with one thickness of door panel/slat qualify identical doors with thicker door panels/slats without additional tests.
- Doors tested with one embossed door panel/slat style qualify identical doors with different embossed door panel/slat styles without additional tests.
- Doors tested with panels without insulation qualify identical doors with door panels with insulation without additional tests.
- The maximum span tested shall determine the maximum allowable design pressure for that door span and for lesser door spans that are not tested.
- The maximum door height is limited to three times the height of the door tested. If the tested door has vertical reinforcing struts or locks that engage the top or bottom of the door, the maximum door height is the tested door height.
- The maximum height of any individual section in the tested door is the maximum individual section height allowed.
- Conduct additional tests for higher design pressures on lesser spans.
- Extrapolation of test values is not permitted.
- Provide rational analysis with the allowable design pressure values for intermediate door spans between two sets of tested doors with the same reinforcement and construction in accordance with Section 4.5.
- Test doors that have glazed openings with the maximum glass dimensions.
- Mount doors in a test frame using the installation hardware.
- Test doors that have ventilators (louvers) with the maximum ventilator size dimensions. Doors with more than 25 percent of the door area containing ventilation are not permitted.
- Use impact ventilators if the area of the ventilator exceeds 60" sq.

4.5 Rational Analysis for Doors Tested to Uniform Static Load, Cyclic Loading, and Impact Resistance: When two sets of doors with the same reinforcement and construction (including glazing and ventilator construction) have been tested for uniform static load, cyclic, and impact resistance at two different spans, then design pressures for intermediate spans may be determined with rational analysis in accordance with the following:

- Perform the rational analysis in accordance with established principals of engineering mechanics and sound engineering practices.
- A Texas licensed professional engineer must sign, seal, and date the rational analysis.
- The spans tested shall be representative of door spans produced and marketed in volume by the door manufacturer.
- The construction of the door assemblies for the intermediate spans shall be, as a minimum, the same as both tested spans. The number of struts per section and the attachment method of the strut attachments shall be the same, and attachment spacing shall be similar.

4.6 Test Reports: The supervising entity must develop the test report. The test report must 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 section or slat dimensions and thickness)
- Dimensions of the fixed daylight openings in the sections
- Dimensions of the ventilators (louvers) in the sections
- Description of the tested assembly
- Door section or slat construction (material construction and material thickness)
- Insulation requirements for door panels/slates
- Track/guide and bracket requirements
- Glass construction and glazing method
- Hardware description (lock assemblies), 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 garage door or rolling door was secured to during testing)
- 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.

NOTE: If the test report relies on a drawing for the description of the tested assembly, then the test report shall reference the drawing by drawing number, revision number, and date. The drawing shall include only that information that was tested or it shall indicate (by marking) the components that were tested. The drawing shall include dimensions for all components, glazing construction, and method of installation, including the test frame material. The drawing shall bear the stamp of the test lab (or the seal and signature of the independent engineer witnessing the test at the manufacturer's test facility), the test report number, and the date of the test. Note: This drawing is not the production drawing.

4.7 Labels: The doors must bear a label in accordance with the following:

4.7.1 Non-Impact Resistant Doors: The doors are not required to bear a label from an inspection agency. However, the TDI will require the door to bear a label, which may be produced by the product manufacturer. The label must include: the name, series, or model number of the door, the name of the door manufacturer; the design pressure rating for the door; and compliance with either ASTM E 330 or ANSI/DASMA 108.

4.7.2 Impact Resistant Doors: In addition to the label information required in Section 4.5.1, the label shall indicate compliance with either ASTM E 1886 and ASTM E 1996 (and list the missile level), compliance with ANSI/DASMA 115, or compliance with TAS 201 and TAS 203.

5.0 Substantiating Information

- 5.1 The following information must be included as part of the submittal package for each product (organize by residential, commercial, and roll up doors):
- Cover letter as described in Section 1.0.
 - Test report in accordance with either ASTM E 330 or ANSI/DASMA 108.
 - Lab stamped (or engineer sealed) drawings that go with either the ASTM E 330 or ANSI/DASMA 108 test report. Refer to Section 4.4.
 - Test report in accordance with either ASTM E 1886 and ASTM E 1996, ANSI/DASMA 115, or TAS-201 and TAS-203. Note: Information required for windborne debris resistant products.
 - Lab stamped (or engineer sealed) drawings that go with the ASTM E 1886 and ASTM E 1996, ANSI/DASMA 115, or TAS-201 and TAS-203 test report. Refer to Section 4.4.
 - Copy of the label that will be applied to the garage door or rolling door product. The label shall be in accordance with Sections 4.2 and 4.3 of this document.
 - Maximum allowable height for the doors.
 - Installation instructions.
- 5.2 **Design Drawings:** If design drawings are a part of the installation requirements, then for each type of garage door or rolling door to be listed, please provide one hard copy and one electronic copy (PDF), on a CD or DVD. The design drawings shall indicate compliance with the 2006 IRC and the 2006 IBC and the applicable Texas Revisions. The design drawings shall be sealed by a Texas licensed professional engineer. TDI may use the electronic copy to post the drawings on the TDI Windstorm Inspection Program Product Evaluation Index website. Electronic drawings must each have a visible seal. Shading is an acceptable means.
- 5.3 **Rational Analysis:** Calculations shall be submitted for door sizes not tested as permitted in Sections 4.3 and 4.5. A Texas licensed professional engineer must sign, seal, and date the analysis.
- 5.4 **Fastener Analysis:** The attachment of the track brackets to substrates and/or with fasteners other than as tested is permitted using engineering analysis. It is acceptable to increase the track bracket spacing from the spacing used in the tested assembly for alternative substrates and/or fasteners using engineering analysis. If the spacing of the track brackets is increased, then it is required that the engineering analysis includes a check of the track bending stress and the track deflection to verify that the track members are within allowable limits. A Texas licensed professional engineer must sign, seal, and date the analysis by.

6.0 Expiration and Renewal of Product Evaluation Reports

- 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 is within six, then TDI could request you to revise the 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 re-evaluation 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 or if the test report has an expiration date.
- 6.8 The evaluation report will indicate the month and year of the re-evaluation date.

7.0 Standards

ANSI/DASMA 108-2005
ANSI/DASMA 115-2005
ASTM E 330-02
ASTM E 1886-04
ASTM E 1996-04
ISO/IEC Standard 17025-2005
TAS 201-94
TAS 202-94
TAS 203-94