

Submittal Requirements for Product Evaluation Garage Doors and Rolling Doors

The information and product requirements requested below will be used by the Texas Department of Insurance (TDI) to develop a product evaluation report for use in the designated catastrophe areas along the Texas Gulf Coast.

1.0 Building Code Requirements for Products

- 1.1 Products will be evaluated by TDI in accordance with the wind load criteria of Chapter 3 of the 2018 International Residential Code (IRC); the wind load criteria of Chapter 16 of the 2018 International Building Code (IBC); test standards and performance criteria specified in the IRC and the IBC; and nationally recognized test standards or procedures.
- 1.2 **Basic Design Wind Speed Requirements:** The basic windspeed requirements for the windstorm program area are as defined in the IRC and the IBC. Contact TDI for more information regarding the basic wind speed requirements.
- 1.3 **Design Pressure Requirements:** Refer to Chapter 3 of the IRC or to ASCE 7-16 for design wind pressure requirements based on the basic wind speeds that are required for the TDI windstorm program area. The manufacturer should consider that different Exposure conditions can occur for all structures that are located within the TDI windstorm program area. Contact TDI for more information regarding design pressure requirements.
- 1.4 **Windborne Debris Requirements:** Protection from windborne debris is a requirement within the TDI windstorm program area. NOTE: It is not a requirement that the product be impact resistant in order for the TDI to develop an evaluation report for the product. Contact TDI for specific windborne debris requirements for the TDI windstorm program area.

2.0 Product Applicability and Limitations of Evaluation Report

- 2.1 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.
- 2.2 TDI will develop the product evaluation report based on the way 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, products should be tested as they would be installed in the field. Products should be tested 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 must be submitted by a Texas licensed professional engineer. The rational analysis must 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 must include

a check of the track bending stress and the track bending deflection to verify that they are within allowable limits.

2.3 **Attachment of Doors to Wall Framing:** If the brackets for the vertical tracks will be secured to a wood jamb, then an analysis must be submitted to TDI for the attachment of the wood jamb to the wall framing of the structure. **Note:** DASMA Technical Data Sheet #161 may be utilized 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.
- The analysis must be signed, sealed, and dated by a Texas licensed professional engineer.

3.0 Testing and Test Reports

3.1 **Testing Facility:** Test reports must be developed by testing facilities that comply with one of the following:

- 3.1.1 The test facility must be either UL (Underwriters Laboratories) or FM (Factory Mutual);
- 3.1.2 The test facility must be recognized by the International Code Council Evaluation Service (ICC-ES) as specified in ICC-ES Acceptance Criteria AC85;
- 3.1.3 The test facility must be accredited by either AAMA or WDMA;
- 3.1.4 The test facility must be recognized by Miami-Dade County, Florida; or
- 3.1.5 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 the manufacturer must have the testing conducted either under the supervision of an independent testing facility that qualifies under Sections 3.1.1 through 3.1.5 or the manufacturer's facility must qualify under Sections 3.1.1 through 3.1.5 and the test must be conducted under the supervision of a Texas licensed professional engineer. The Texas licensed professional engineer must provide a statement of

independence from the test facility. The test report must be prepared by and issued by the supervising party. The Texas licensed professional engineer must sign, seal, and date the test report.

The Texas Department of Insurance reserves the right to request that the testing facility provide documentation to verify compliance with Sections 3.1.1 through 3.1.5.

3.2 **Uniform Static Air Pressure:** Doors must be tested in accordance with either ASTM E 330 or ANSI/DASMA 108 and must meet the acceptance criteria of ANSI/DASMA 108. **Exception:** Doors may be tested in accordance with Miami-Dade County, Florida protocol TAS-202 and must comply with the pass/fail criteria established by Miami-Dade County, Florida for these protocols.

- One door must be tested for each door model, type of reinforcing method, and thickness of steel door panels/slats.
- Doors tested with one thickness of door panel/slat must qualify identical doors with thicker door panels without additional tests.
- Doors tested with one embossed door panel/slat style must qualify identical doors with different embossed door panel/slat styles without additional tests.
- Doors tested with panels without insulation must qualify identical doors with door panels with insulation without additional tests.
- The span tested must determine the maximum allowable design pressure for that door span.
- The maximum door height must 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 must be the tested door height.
- The maximum height of any individual section in the tested door must 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.
- Doors that have glazed openings must be tested with each type of glazing to be used, the maximum glazed opening dimensions, and the minimum strength glazing desired.
- Doors that have ventilators (louvers) must be tested 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.

- Doors must be mounted in a test frame using the hardware that will be used with the door during field installation.

3.3 **Rational Analysis for Doors Tested to Uniform Static Load Only:** Higher allowable pressures for lesser spans and lower allowable pressures for greater spans are permitted with respect to the span tested, using rational analysis, in accordance with the following:

- The rational analysis must be performed in accordance with established principals of engineering mechanics and sound engineering practices.
- The rational analysis must be signed, sealed, and dated by a Texas licensed professional engineer.
- The span tested must 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.
- The allowable pressures extrapolated for lesser and greater spans from the tested span must be based on the lesser of: (1) pressure based on bending stress, (2) the total pressure acting against the door, and (3) pressure based on tensile stress (rolling doors) where applicable.
- The load acting on each door jamb for the extrapolated door sizes must not exceed the load acting on each door jamb 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 must 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.

3.4 **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, the door product must also be tested in accordance with either ASTM E 1886 and ASTM E 1996 or ANSI/DASMA 115. **Exception:** Doors may be tested in accordance with Miami-Dade County, Florida protocols TAS-201 and TAS-203 and must comply with the pass/fail criteria established by Miami-Dade County, Florida for these protocols.

- Three doors must be tested 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 must qualify identical doors with thicker door panels/slats without additional tests.
- Doors tested with one embossed door panel/slat style must qualify identical doors with different embossed door panel/slat styles without additional tests.
- Doors tested with panels without insulation must qualify identical doors with door panels with insulation without additional tests.
- The maximum span tested must determine the maximum allowable design pressure for that door span and for lesser door spans that are not tested.
- The maximum door height must 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 must be the tested door height.
- The maximum height of any individual section in the tested door must be the maximum individual section height allowed.
- Additional tests must be conducted for higher design pressures on lesser spans.
- Extrapolation of test values is not permitted.
- Rational analysis is permitted to provide allowable design pressure values for intermediate door spans between two sets of tested doors with the same reinforcement and construction in accordance with Section 3.5.
- Doors that have glazed openings must be tested with the maximum glass dimensions.
- Doors must be mounted in a test frame using the hardware that will be used with the door during field installation.
- Doors that have ventilators (louvers) must be tested with the maximum ventilator size dimensions. Doors with more than 25 percent of the door area containing ventilation are not permitted.
- If the door contains ventilators, then the ventilators must be impacted if the area of the ventilator exceeds 60 sq. in.

3.5 **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:

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

3.6 **Test Reports:** The test report must be developed by the supervising entity. 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/slats.
- 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 must reference the drawing by drawing number, revision number, and date. The drawing must include only the information that was tested, or it must indicate (by marking) the components that were tested. The drawing must include dimensions for all components, glazing construction, and method of installation, including the test frame material. The drawing must 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.

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

3.7.1 **Non-Impact Resistant Doors:** The doors are not required to bear a label from an inspection agency. However, TDI will require the door to bear a label, which may be produced by the product manufacturer. The label must include: (1) the name, series, or model number of the door, (2) the name of the door manufacturer; (3) the design pressure rating for the door; and (4) compliance with either ASTM E 330 or ANSI/DASMA 108.

3.7.2 **Impact Resistant Doors:** In addition to the label information required in Section 4.5.1, the label must 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.

4.0 Substantiating Information

The following information must be included as part of the submittal package for each product to be listed (it is recommended that submittals be organized by residential, commercial, and roll up doors:

4.1 **Test Reports (Uniform Static Load).** Copies of 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 3.6.

4.2 **Test Reports (Impact).** Copies of test reports 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 3.6.

4.3 **Label.** Copy of the label that will be applied to the garage door or rolling door product. The label must be in accordance with Section 3.7 of this document.

4.4 **Maximum Door Height.** Indicate the maximum allowable height for the doors. Either provide on drawings or indicate in cover letter.

4.5 **Installation Instructions.** Provide a copy of the installation instructions.

4.6 **Design Drawings:** Design drawings are required. Provide one copy of each design drawing. The design drawings must have a title block that includes the name of the manufacturer, the name of the product, the date of the drawing, the revision number and revision date of the drawing, and the design pressure rating. The design drawings must indicate compliance with the TDI adopted edition of the IRC and the IBC. The design drawings must be signed, sealed, and dated by a Texas licensed

professional engineer. TDI will post the drawings on the TDI website with the product evaluation report. The drawings must each have a visible seal. Shading is an acceptable means.

- 4.7 **Rational Analysis:** Calculations must be submitted for door sizes not tested as permitted in Sections 3.3 and 3.5. The analysis must be signed, sealed, and dated by a Texas licensed professional engineer. Provide one copy.
- 4.8 **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. The analysis must be signed, sealed, and dated by a Texas licensed professional engineer. Provide one copy.
- 4.9 **Attachment of Jambs to Wall Framing.** This is optional. If an attachment method is provided, then it must be developed in accordance with Section 2.3. The requirements for securing the jambs to the wall framing, based on the analysis, will be referenced in the product evaluation report. If no methodology for securing the jambs to the wall framing is provided, then the product evaluation report will state that the method of attachment must be made by a Texas licensed engineer. If a method is provided, drawings, signed, sealed, and dated by a Texas licensed professional engineer must be provided. Provide one copy of each drawing.

5.0 Expiration and Renewal of Product Evaluation Reports

- 5.1 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 and, the product specified in the test report has not changed.
- 5.2 TDI reserves the right to request verification from the product manufacturer that the product specified in the test report has not changed.
- 5.3 If the test report indicates an expiration date and the test report is expired, then the test report must be revised to either (1) remove the expiration date, (2) change the expiration date, or (3) add a record retention date.
- 5.4 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 (1) remove the expiration date, (2) change the expiration date, or (3) add a record retention date.
- 5.5 For an initial product evaluation, if the test report does not indicate an expiration date or if it specifies a record retention date, then 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.

- 5.6 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 TDI may continue to utilize the test report if no changes have occurred in the product.
- 5.7 The evaluation report will be subject to re-evaluation a maximum of four (4) 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 if the test report has an expiration date that is less than four (4)n years from the effective date of the evaluation report.
- 5.8 The evaluation report will indicate the month and year of the re-evaluation date.

6.0 Standards

ANSI/DASMA 108-2017
ANSI/DASMA 115-2016
ASTM E 330-14
ASTM E 1886-13a
ASTM E 1996-14a
ISO/IEC Standard 17025-2005
TAS 201-94
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