

TEXAS DEPARTMENT OF INSURANCE

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Proposed Change to Windstorm Building Requirements or Procedures in the Texas Windstorm Insurance Association Plan of Operation

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**Please complete the following for each proposed change:
(A separate form must be submitted for each proposed change.)**

1. Proposed change to the following building requirement or procedure:

Determination of wind load for garage doors

2. Proposed change is to:

Document: Texas Residential Code
Section: R301.2.1 and (new) Table R301.2(4)
Table _____
Figure _____
Appendix _____

3. Please use the following format to present the proposed change:

LINE THROUGH LANGUAGE TO BE DELETED UNDERLINE NEW LANGUAGE TO BE ADDED

4. Proposed Change. Please specify change. Attach additional sheets if needed.

a. Change R301.2.1 as follows:

R301.2.1 Wind limitations. Buildings and portions thereof shall be limited by wind speed, as defined in Table R301.2(1), and construction methods in accordance with this code. Basic wind speeds shall be determined from Figure 301.2(4). Where different construction methods and structural materials are used for various portions of a building, the applicable requirements of this section for each portion shall apply. Where loads for wall coverings, curtain walls, roof coverings, exterior windows, skylights, ~~garage doors~~ and exterior doors are not otherwise specified, the loads listed in Table R301.2(2) adjusted for height and exposure using Table R301.2(3) shall be used to determine design load performance requirements for wall coverings, curtain walls, roof coverings, exterior windows, skylights, ~~garage doors~~ and exterior doors. Where loads for garage doors are not otherwise specified, the loads listed in Table R301.2(4) adjusted for height and exposure using Table R301.2(3) shall be used to determine design load performance requirements for garage doors. Asphalt shingles shall be designed for wind speeds in accordance with Section R905.2.6.

b. Add a new Table R301.2(4) as follows:

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**TABLE R301.2 (4)
GARAGE DOOR LOADS FOR A BUILDING WITH A MEAN ROOF HEIGHT OF 30 FEET
LOCATED IN EXPOSURE B**

Basic Wind Speed (mph - 3 second gust)

		90	100	110	120	130	140	150
Roof Angle > 10 degrees								
Effective Area:								
Width (ft)	Height (ft)							
9	7	12.8 -14.5	15.8 -17.9	19.1 -21.6	22.8 -25.8	26.7 -30.2	31.0 -35.1	35.6 -40.2
16	7	12.3 -13.7	15.2 -16.9	18.3 -20.4	21.8 -24.3	25.6 -28.5	29.7 -33.1	34.1 -38.0

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 sq m, 1 mile per hour = 1.609 km/h

1. For effective areas or wind speeds between those given above the load may be interpolated, otherwise use the load associated with the lower effective area.
2. Table values shall be adjusted for height and exposure by multiplying by the adjustment coefficient in Table R301.2 (3).
3. Plus and minus signs signify pressures acting toward and away from the building surfaces.
4. Negative pressures assume door has 2 feet of width in building's end zone.

5. Reason for Change. Please state purpose and reason for change. Attach additional sheets if needed.

Clarification is needed for the code user regarding provisions governing wind effects on garage doors, particularly wind loads.

The use of Table 301.2 (2) is difficult to apply to garage doors. Common garage door sizes are other than those shown in the table. Common garage door proximity to building corners results in doors being installed within multiple building wind zones. Consequently, garage door wind load determinations using that table are not adequate. Therefore, DASMA proposes that the IRC include a chart to provide a simplified means of such determinations. The table, formatted for consistency with other similar tables currently in the IRC, takes into consideration the following:

1. Common sizes. The 9x7 and 16x7 sizes are most commonly associated with residential applications.
2. Multiple zones. A note below the charts indicates "negative pressures assume door has 2 feet of width in building's end zone." DASMA research has shown that this end zone condition covers the vast majority of applications.
3. Roof angle. Residential applications are closely associated with roof angles greater than 10 degrees.

The proposed table is currently incorporated into the 2004 Florida Building Code.

6. Attach supporting written or printed information, including, but not limited to, test data, structural calculations, and/or documentation that the proposed change complies with the minimum wind load criteria and design standards specified in the building requirements adopted by the Texas Department of Insurance. Attach supporting written or printed information relating to the proposed changes to the building requirements or procedures contained in the Texas Windstorm Insurance Association Plan of Operation.

Pursuant to Article 21.49, §6C of the Insurance Code, this proposal form must be complete and submitted to the address specified above not later than the 30th day before the date of a scheduled advisory committee meeting for the proposal to be considered at that meeting.

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