

## Products for Use in Windstorm-rated Assemblies

[See General Information for Windstorm-rated Assemblies](#)

### USE AND INSTALLATION

This category covers products intended for use in windstorm-rated assemblies. The products are tested as part of a specific assembly or assemblies. The products include, but are not limited to, doors, frames, hardware, louvers and glazing.

The performance of a windstorm-rated assembly is based upon test methods contained in the standards/documents referenced under **REQUIREMENTS** below.

Impact protective systems intended for use with storm shelters as outline in ICC 500, incorporate operational hardware requirements. Where operating hardware of an impact-protective system is located on the unprotected side of the storm shelter envelope, after the latching mechanism is engaged, such operating hardware on the unprotected side shall be locked, disabled, or inactive and shall not be susceptible to unintentional unlatching by debris impact. The use of these systems shall be determined by the authority having jurisdiction and considered in conjunction with life safety and egress code requirements, where applicable

### PRODUCT IDENTITY

One of the following product identities appears on the product:

Awning Window for Use in Windstorm-rated Assembly

Light Kit for Use in Windstorm-rated Assembly

Louver for Use in Windstorm-rated Assembly

Manual Surface Bolt for Use in Windstorm-rated Assembly

Swinging Door for Use in Windstorm-rated Assembly

Other product identities may be used as shown in the individual certifications and appended with "for Use in Windstorm-rated Assembly" as shown above.

### ADDITIONAL INFORMATION

For additional information, see Windstorm-rated Assemblies ([ZHLA](#)), Windstorm-rated Building Products ([ZHBA](#)) and Building Materials ([AABM](#)).

### REQUIREMENTS

The basic standards used to investigate the performance of windstorm-rated assemblies are one or more of the following:

ASTM E283, "Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen"

ASTM E330, "Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference"

ASTM E331, "Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference"

ASTM E1886, "Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials"

ASTM E1996, "Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Windborne Debris in Hurricanes"

AAMA/WDMA/CSA 101/I.S.2/A440, "Standard/Specification for Windows, Doors, and Unit Skylights"

AMCA 540, "Test Method for Louvers Impacted by Wind Borne Debris"

FEMA Guideline P-361, "Safe Rooms for Tornadoes and Hurricanes: Guidance for Community and Residential Safe Rooms," investigated with respect to impact and pressure requirements only.

ICC 500, "ICC/NSSA Standard for the Design and Construction of Storm Shelters," investigated with respect to impact and pressure testing.

Where indicated in the individual certifications, windstorm-rated assemblies have also been certified in accordance with test methods contained in one or more of the following Testing Application Standards (TAS) published in the "Florida Building Code":

TAS 201, "Impact Test Procedures"

TAS 202, "Criteria for Testing Impact and Non Impact Resistant Building Envelope Components Using Uniform Static Air Pressure"

TAS 203, "Criteria for Testing Products Subject to Cyclic Wind Pressure Loading"

Where indicated in the individual certifications, windstorm-rated assemblies have also been certified in accordance with the "California Building Code," Chapter 7A, "Materials and Construction Methods for Exterior Wildfire Exposure"; Section 706A.2, "Requirements."

The individual certifications identify the test standards and performance ratings for the assemblies and the assembly numbers, which are defined under Windstorm-rated Assemblies ([ZHLA](#)).

### **UL MARK**

The Certification Mark of UL on the product is the only method provided by UL to identify products manufactured under its Certification and Follow-Up Service. The [Certification Mark](#) for these products includes the UL symbol, the words "CERTIFIED" and "SAFETY," the geographic identifier(s), and a file number.

### **Additional Certification Markings**

Products covered under this category are additionally marked with the following information:

**ASTM E283**

and/or

**ASTM E330**

and/or

**ASTM E331**

and/or

**ASTM E1886**

and/or

**ASTM E1996**

and/or

**AAMA/WDMA/CSA 101/I.S.2/A440 (edition date)**

and/or

**AMCA 540 (edition date)**

and/or

**FEMA Guideline P-361 and ICC 500 (edition date)**

and/or

**ICC 500 (edition date)**

Where indicated in the individual certifications, products investigated to FEMA Guideline P-361 and ICC 500 and/or ICC 500 (2014 or later) are marked:

**Design Pressure = +/- XX psf**

and

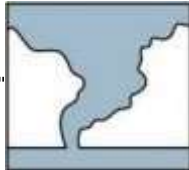
**Impact = YY lb 2x4 at ZZ mph**

and

**Hazard - "Tornado", "Hurricane", or "Tornado and Hurricane"**

YY = 9 or 15 (missile weight); ZZ = impact speed

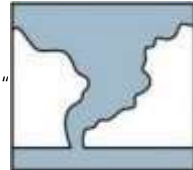
The symbols for Hazard, Tornado "



", Hurricane "



", or Tornado and Hurricane "



", may also be employed on the UL Certification Mark in place of text.

Where indicated in the individual certifications, these products may also be marked with the statement "ALSO CERTIFIED TO FLORIDA BUILDING CODE TESTING APPLICATION STANDARD(S) (TAS) \*"

\* **201** and/or **202** and/or **203**

Where indicated in the individual certifications, these products may also be marked with the statement "Also certified to Section 706A.2 of the California Building Code."

#### **Alternate UL Mark**

The Classification Mark of UL on the product is the only method provided by UL to identify products manufactured under its Classification and Follow-Up Service. The Classification Mark for these products includes the UL symbol, the word "CLASSIFIED" above the UL symbol (as illustrated in the Introduction of this Directory), and the following additional information:

**[PRODUCT IDENTITY\*] FOR USE IN WINDSTORM-RATED ASSEMBLY  
IN ACCORDANCE WITH +  
Control No.**

\* The appropriate product identity as shown in the individual Classifications

+ One or more of the following as appropriate:

**ASTM E283**

**ASTM E330**

**ASTM E331**

**ASTM E1886**

**ASTM E1996**

**AAMA/WDMA/CSA 101/I.S.2/A440 (edition date)**

**AMCA 540 (edition date)**

**FEMA Guideline P-361 (edition date†) and ICC 500 (edition date\*)**

**ICC 500 (edition date\*)**

† Edition date required when used in conjunction with ICC 500 (2014 or later)

\* Edition date required if investigated to 2014 or later

Where indicated in the individual Classifications, products investigated to FEMA Guideline P-320, FEMA Guideline P-361 and/or ICC 500 (2014 or later) are marked:

**DESIGN PRESSURE = +/- XX PSF**  
**and**  
**IMPACT = YY LB 2x4 AT ZZ MPH**  
**and**

**Hazard - "Tornado", "Hurricane", or "Tornado and Hurricane"**

YY = 9 or 15 (missile weight); ZZ = impact speed

The symbols for Hazard, Tornado "



", Hurricane "



", or Tornado and Hurricane "



", may also be employed on the UL Certification Mark in place of text.

Where indicated in the individual Classifications, the Classification Mark may also include the statement:

**ALSO CLASSIFIED IN ACCORDANCE WITH**  
**FLORIDA BUILDING CODE TESTING APPLICATION STANDARD(S) (TAS) \*\***

\*\* 201 and/or 202 and/or 203

Where indicated in the individual certifications, these products may also be marked with the statement "Also certified to Section 706A.2 of the California Building Code."

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Last Updated on 2023-04-10

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