



## TGIK.GuideInfo Roofing Systems, Uplift Resistance

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### [Roof-covering Materials] Roofing Systems, Uplift Resistance

[Guide Information for Roofing Materials and Systems](#)

#### GENERAL

This category covers roofing materials that have been investigated for damageability from uplift pressures associated with high-velocity winds.

The Classification for uplift resistance, expressed in lbs per sq ft (psf), is derived from tests conducted in accordance with [ANSI/UL 1897](#), "Uplift Tests for Roof Covering Systems." The test method subjects a minimum 10 ft by 10 ft sample to various short-term (one-minute increments) static air pressures to index performance under uplift loads imposed on a roofing system's securement to a specified roof deck. For uplift resistance of roof deck constructions that also includes attachment to supports, see Roof Deck Constructions ([TGKX](#)). Unless otherwise noted, plywood deck assemblies are intended to consist of minimum B-C rated sheathing.

The magnitude of the wind velocity across a roof deck and the resulting uplift pressures on a roof deck are dependent upon many factors, such as wind gusts, the shape of the roof deck, edge configuration, and the landscape surrounding the roof deck installation. A method to calculate the uplift pressures on roof decks is contained in ASCE 7-95, "Minimum Design Loads for Buildings and Other Structures."

The Classifications apply only to coverings composed of Classified materials under Roofing Systems ([TGFU](#)) or Listed materials under Prepared Roof-covering Materials ([TFWZ](#)) unless otherwise noted, assembled as described in the Classification or Listing for the individual manufacturers.

For Classifications regarding uplift resistance of complete roof deck assemblies including the roof deck and its attachment to supports, refer to Roof Deck Constructions ([TGKX](#)).

For the investigation of roofing systems with respect to an external fire exposure, see Roofing Systems ([TGFU](#)). For the investigation of prepared roof-covering materials with respect to an external fire and wind resistance, see Prepared Roof-covering Materials ([TFWZ](#)).

Where indicated in the individual Classifications, products covered under this category have also been evaluated by ICC Evaluation Service (ICC-ES).

#### ROOFING SYSTEM TYPES

This category covers the following roofing systems which are composed of varying types of components:

1. Single-ply Membrane Systems (Includes Modified Bitumen Membranes)
2. Asphalt Glass-fiber Felt and/or Ply Sheet Systems with Hot Roofing Asphalt
3. Spray-applied Foam and Coating Systems
4. Cold-application Systems (Asphalt Felts or Ply Sheets with Cold Cements and Coatings)
5. Combination Hot and Cold Systems
6. Panel Systems
7. Prepared Roof-covering Materials Systems

The following describes the composition of each of these system types:

##### **Single-ply Membrane Systems (Includes Modified Bitumen Membranes)**

These roofing systems are composed of various types of membranes (such as EPDM, PVC, CSPE and modified bitumen) which are either fully adhered or mechanically attached. UL Classified insulation may be utilized, as well as various coatings, splicing adhesives, lap sealants and caulking materials. See the individual Classifications for designations of products and application rates for various components.

##### **Asphalt Glass-fiber Felt and/or Ply Sheet Systems**

#### with Hot Roofing Asphalt

These roofing systems are composed of various combinations of layered glass-fiber base or ply sheets assembled with hot roofing asphalt. See the individual Classifications for designations of products and application rates for various components.

#### Spray-applied Foam and Coating Systems

These roofing systems are composed of a foam, formed by the simultaneous spraying of two liquid components to a nominal thickness, covered with a cold-application coating system to form a protective covering. See the individual Classifications for designation of products and foam thickness.

#### Cold-application Systems (Asphalt Felts or Ply Sheets with Cold Cements and Coatings)

These roofing systems are composed of asphalt-saturated organic felts or asphalt-coated glass-fiber felts or ply sheets applied with cold-application cement and surfaced with a cold-application coating. See the individual Classifications for designations and application rates for various components.

#### Combination Hot and Cold Systems

These roofing systems are composed of insulation and ply sheets applied with either hot roofing asphalt or cold-application coatings. See the individual Classifications for designation of products and application rates for various components.

#### Panel Systems

These roofing systems are composed of metallic products in various sizes. See the individual Classifications for designation of products and fastening schedules to substrates.

#### Prepared Roof-covering Materials Systems

These roofing systems are composed of shingles, tile, formed panels or shakes. See the individual Classifications for designation of products and fastening schedule to substrates.

#### ADDITIONAL INFORMATION

For additional information, see Roof-covering Materials ([TEVT](#)) and Roofing Materials and Systems ([AARM](#)).

#### UL MARK

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

#### MEMBRANE FOR ROOFING SYSTEMS+ AS TO UPLIFT RESISTANCE Control No.

+ Or one of the following designations:

1. **TYPE G1 COATED BASE/PLY SHEET FOR ROOFING SYSTEMS**
2. **TYPE G2 COATED CAP OR BASE/PLY SHEET FOR ROOFING SYSTEMS**
3. **MINERAL AND FIBER BOARD FOR ROOFING SYSTEMS**
4. **CEMENTS AND COATINGS FOR ROOFING SYSTEMS**
5. **BASE/PLY SHEET FOR ROOFING SYSTEMS**
6. **MEMBRANE SPLICING TAPE FOR ROOFING SYSTEMS**
7. **PANELS FOR ROOFING SYSTEMS**
8. **INSULATION ADHESIVE FOR ROOFING SYSTEMS**
9. **FOAMED PLASTIC INGREDIENT FOR ROOFING SYSTEMS**

- 10. **FOAMED PLASTIC FOR ROOFING SYSTEMS**
- 11. **BUILDING UNIT FOR ROOFING SYSTEMS**
- 12. **PREPARED ROOF COVERING MATERIALS FOR ROOFING SYSTEMS**
- 13. **HOLD DOWN DEVICE FOR ROOFING SYSTEMS**
- 14. **PANEL FASTENERS FOR ROOFING SYSTEMS**

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