Underwriters Laboratories

by **Mark S. Graham**

Underwriters Laboratories Inc. (UL) is an independent, nonprofit product safety testing and certification organization. UL evaluates more than 18,000 product types using 748 standards it has developed, as well as others.

You need to be aware of UL requirements because project specifications sometimes require UL testing, approvals and labeling, and in some instances, UL approval is a requirement for code compliance.

Standards

UL publishes several standards applicable to roof system construction. UL 790, "Standard for Tests for Fire Resistance of Roof Covering Materials," evaluates a roof assembly's ability to resist fire exposure from the outside. Successfully tested assemblies are classified by UL as "Class A," "Class B" or "Class C"—"Class A" roof assemblies have the greatest fire resistance. Roof assemblies classified by UL for fire resistance can be found in UL's *Roofing Materials & Systems* directory in the categories "Roofing Systems (TGFU)" or "Prepared Roof Covering Materials (TFWZ)." The four-letter codes in parentheses represent product category guide designations.

UL 1256, "Standard for Fire Test of Roof Deck Constructions," applies to a roof assembly's ability to resist potential fire spread on a building's interior. Roof assemblies that are classified by UL in this category can be found in UL's directory under "Roof Deck Constructions (TGKX)."

"Standard for Uplift Resistance of Roof Assemblies" (UL 580) provides comparative uplift-resistance data regarding roof assembly attachment to a roof structure. Successfully tested assemblies are classified as "Class 15," "Class 30," "Class 60" or "Class 90," which represent nominal, static uplift-pressure resistances of 15 pounds per square foot, 30 pounds per square foot, 60 pounds per square foot and 90 pounds per square foot (0.7 kPa, 1.4 kPa, 2.9 kPa and 4.3 kPa), respectively. UL-classified roof assemblies are listed in UL's directory under "Roof Deck Constructions (TGKX)."

UL 1897, "Standard for Uplift Tests on Roof Covering Systems," provides comparative uplift-resistance data for roof system attachment to roof decks. The roof assemblies classified by UL are in the category "Roofing System, Uplift Resistance (TGIK)."

UL 997, "Standard for Wind Resistance of Prepared Roof Coverings," evaluates roof coverings' (e.g., asphalt shingles) performances when exposed to wind speeds from about 55 mph to 63 mph (26 m/sec to 28 m/sec). Products complying with this test are listed in UL's directory under "Prepared Roof Covering Materials (TFWX)."

"Standard for Impact Resistance of Prepared Roof Coverings" (UL 2218) includes data about prepared roof coverings' impact resistances. For this test, steel balls of varying sizes are dropped to simulate hailstones falling at peak velocity. Roofing materials then are classified as "Class 1" through "Class 4"—"Class 4" represents the most impact-resistant materials. The products classified can be found in UL's directory in the category "Roof Covering Materials, Impact Resistance (TGAM)."

UL label

In addition to being listed in UL's directory, products classified by UL bear a label, which typically is found on a product itself or, if appropriate, the product's packaging.

The UL label indicates a product has been manufactured to comply with the applicable UL classification listing. However, product manufacturers are not obligated to label all their products, and products that do not bear the UL label are not required by UL to comply with its requirements.

The UL label is the only method provided by UL to identify products that have been produced according to the organization's classification and follow-up service.

Follow-up service

If a product is classified by UL and bears its label, a manufacturer's use of the UL classification and label depends on continued compliance with UL criteria. UL representatives monitor a product's compliance by conducting periodic unannounced visits to manufacturing facilities.

If such a visit reveals that a product does not comply with established UL requirements, a manufacturer is required either to correct the problem or remove the UL classification and label from the product. If a label is removed, label use is not permitted until the manufacturer demonstrates the product once again complies with the requirements.



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