

METAL ROOFING MADE EASY

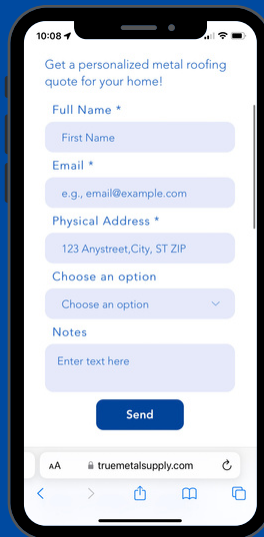
Metal roofing from True Metal Supply is made from quality steel and manufactured using industry leading engineered equipment. Our panel profiles conform to the highest quality control standards set forth by independent testing like those from Underwriters Laboratories.

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UNDERSTANDING UL testing

FOR METAL ROOFING SYSTEMS

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UNDERSTANDING UL testing

FOR METAL ROOFING SYSTEMS

Underwriters Laboratories (UL) is a not-for-profit independent testing organization founded in 1984. UL exists to help consumers make educated and informed decisions by providing expertise regarding products that affect their daily life.

UL has developed a various number of tests that rate the performance of different products and materials. When you see a UL number (i.e., UL 2218) that is the identification of a certain test.

UL 2218 - Impact Rating

UL 2218 test to rate the strength of roofing materials. The test uses steel balls that range in size from 1.25" to 2" in diameter. The steel balls are released from a height of 12' for the 1.25" ball, and a height of 20' for the 2" steel ball. The roof structure being tested is impacted twice in the same spot for each size steel ball.

In order to meet the criteria set by the UL 2218 standard, the roofing material, reverse surface, and underneath layers must not tear, fracture, crack, split, rupture, craze, or exhibit any evidence of opening of the roof covering layer. The roofing material will then be categorized into one of four categories (Class 1, 2, 3 or 4) based on how it performed.

Class 3 is awarded if the tested roofing material does not crack when hit twice in the same spot by the 1.25" steel ball from 12'.

Class 4 is awarded if the tested roofing material does not crack when hit twice in the same spot by the 2" steel ball from 20'.

UL 580 - Wind Uplift Rating

UL 580 tests a sample of roofing material that has been installed on a test platform. The material is subjected to static uplift pressure for five minutes and oscillating pressure in 10-second intervals for over one hour. The material may be awarded one of three ratings (Class 30, 60 or 90) based on how it performs.

Class 30 - Material resists nominal static pressure of 30 psf and range of oscillating pressure between 22 and 42 psf.

Class 60 - Material resists nominal static pressure of 60 psf and range of oscillating pressure between 44 and 83 psf.

Class 90 - Material resists nominal static pressure of 90 psf and range of oscillating pressure between 66 and 90 psf.

It is important to note that this test does not determine material failure in rapidly changing wind speeds and direction. Also, it doesn't show the failure rate of screw or anchors used in construction.

Defining Wind Uplift

Wind uplift is the suction created by wind forces as the air moves parallel to the roof's surface. As a gust of wind meets the side of a structure, the part of the air is directed upward then across the roof, creating a pressure differential. The air pressure atop the roof is less than that below, and as the differential attempts to equalize, a suction is created that pulls at the roof panels. The faster the wind, the more forceful the uplift will be. In extreme wind events, uplift can pull panels and shingles off buildings.

Wind uplift pressures vary depending on the location on the roof, meaning not every point on a roof experiences the same uplift pressure at the same time. The roof corners and perimeter, which are not fastened directly to the structure, are the weakest points.

Converting PSF to MPH

The following table may be used to convert positive and negative pressure to comparable basic wind speeds. Be advised wind speed is normally measure on the ground and will almost always be greater at roof height.

22 psf = 93.75 mph
30 psf = 108.25 mph
42 psf = 128.85 mph
44 psf = 132.58 mph
60 psf = 153.09 mph
66 psf = 159.34 mph
83 psf = 176.78 mph
90 psf = 187.50 mph

UL 790 - Fire Resistance Rating

UL 790 requirements test the measurement of the relative fire characteristics of roofing material that is subjected to simulated fire sources originating from outside a building on which the material is installed. The material is awarded one of three ratings (Class A, B or C) based on how it performs.

Class A - Material is effective against severe fire test exposures. Under such exposures, roof coverings of this class afford a high degree of fire protection to the roof deck, do not slip from position, and are not expected to produce flying brands.

Class B - Material is effective against moderate fire test exposures. Under such exposures, roof coverings of this class afford a moderate degree of fire protection to the roof deck, do not slip from position, and are not expected to produce flying brands.

Class C - Material is effective against light fire test exposures. Under such exposures, roof coverings of this class afford a light degree of fire protection to the roof deck, do not slip from position, and are not expected to produce flying brands.