TECHNICAL BULLETIN
Wind Speed

Standards for Uplift Resistance of Roof Assemblies (UL580) provide comparative uplift resistance data regarding roof assembly attachments to a roof structure. Successfully tested assemblies are classified as "Class 90", which represents nominal, static uplift pressure resistance of 90 pounds per square foot.

Velocity Pressure (q) elevated at a height (z) shall be calculated by the following equation:

$$q_z = (.00256) * (K_z) * (K_{zt}) * (K_d) * (V)^2$$

q_z = *Velocity pressure calculated at height z (psf)*

K_z = *Velocity pressure exposure factor*

K_{zt} = *Topographic factor*

K_d = *Wind directionality factor*

V = *Basic wind speed*

Residential Application

q_z = *90 psf*

K_z = *0.76* ⟶ *Assumption: Height = 40 ft, Exposure B*

K_{zt} = *1.25* ⟶ *Assumption: 2-D Escarpment*

K_d = *0.85* ⟶ *Assumption: Building or Roof*

V = 208.6 mph

All equations are based off of the American Society of Civil Engineers (ASCE) 7 - 10 Chapter 27.3 and refer to a standard roof assembly as recommended by U.L. Building Materials Directory, Roof Constructions (TGKX). For exact wind speed rating, use ASCE 7 - Table 27.2-1 to determine MWFRS Wind Loads for Enclosed, Partially Enclosed and Open Buildings of All Heights. Ratings above are noted at assumed factors.