T 29 TECHNICAL BULLETIN

U.L. Wind Uplift Class 90

Rev. April 2006

TECTUM Inc. • P.O. Box 3002 • Newark, OH 43058 • www.tectum.com • 1-888-977-9691

What are the U.L. Standard 580 tests for Wind Uplift Resistance of Roof Assemblies?

This test is to evaluate comparative resistance of roof assemblies to simulated load which correspond to wind velocities of 100 - 174 mph. This test evaluates the roof deck, its attachments to supports and roof covering materials only.

The test is conducted by applying various positive pressures to the underside of the deck and various negative pressures (vacuum) to the top of the deck. Three classifications are possible; Class 30, Class 60, and Class 90.

Each test assembly is subjected to each level of the uplift test in the sequence of Class 30, Class 60, and Class 90. To obtain a Class 90 an assembly must be subjected to the Class 30 and Class 60 in that order prior to the Class 90 test.

Each of the class tests consist of 5 phases:

Phase 1 - 5 minutes of negative pressure
Phase 2 - 5 minutes of negative and positive pressures
Phase 3 - 60 minutes of oscillating negative and steady positive pressure
(Oscillations are about every 10 seconds)
Phase 4 - 5 minutes of negative pressure
Phase 5 - 5 minutes of negative and positive pressure

The following are approximate indicated wind velocities for each phase:

Class 30	Class 60	Class 90
Phase 1 - 75 mph	Phase 1 - 102 mph	Phase 1 - 126 mph
Phase 2 - 100 mph	Phase 2 - 142 mph	Phase 2 - 174 mph
Phase 3 - 80 - 117 mph	Phase 3 - 122 - 167 mph	Phase 3 - 149 - 174 mph
Phase 4 - 90 mph	Phase 4 - 116 mph	Phase 4 - 137 mph
Phase 5 - 122 mph	Phase 5 - 159 mph	Phase 5 - 188 mph

U.L. Wind Uplift Class 30, Class 60, or Class 90 does not refer to wind velocity. However, it coincides with the nominal uplift pressure in lbs. per square foot in phase 2 of each class.

To achieve a U.L. Wind Uplift Class 90 requires four hours of subjection to simulated wind loads. The oscillation phase can cause a slow developing weakness and phase 5 will reveal such weaknesses. Only the best of assemblies can achieve a U.L. Wind Uplift Class 90.

Refer to U.L. Building Materials Directory, Roof Deck Constructions (TGKX).

TECTUM INC.
The Noise Control Solution