

## ***How Does A Roof Blow Off?***

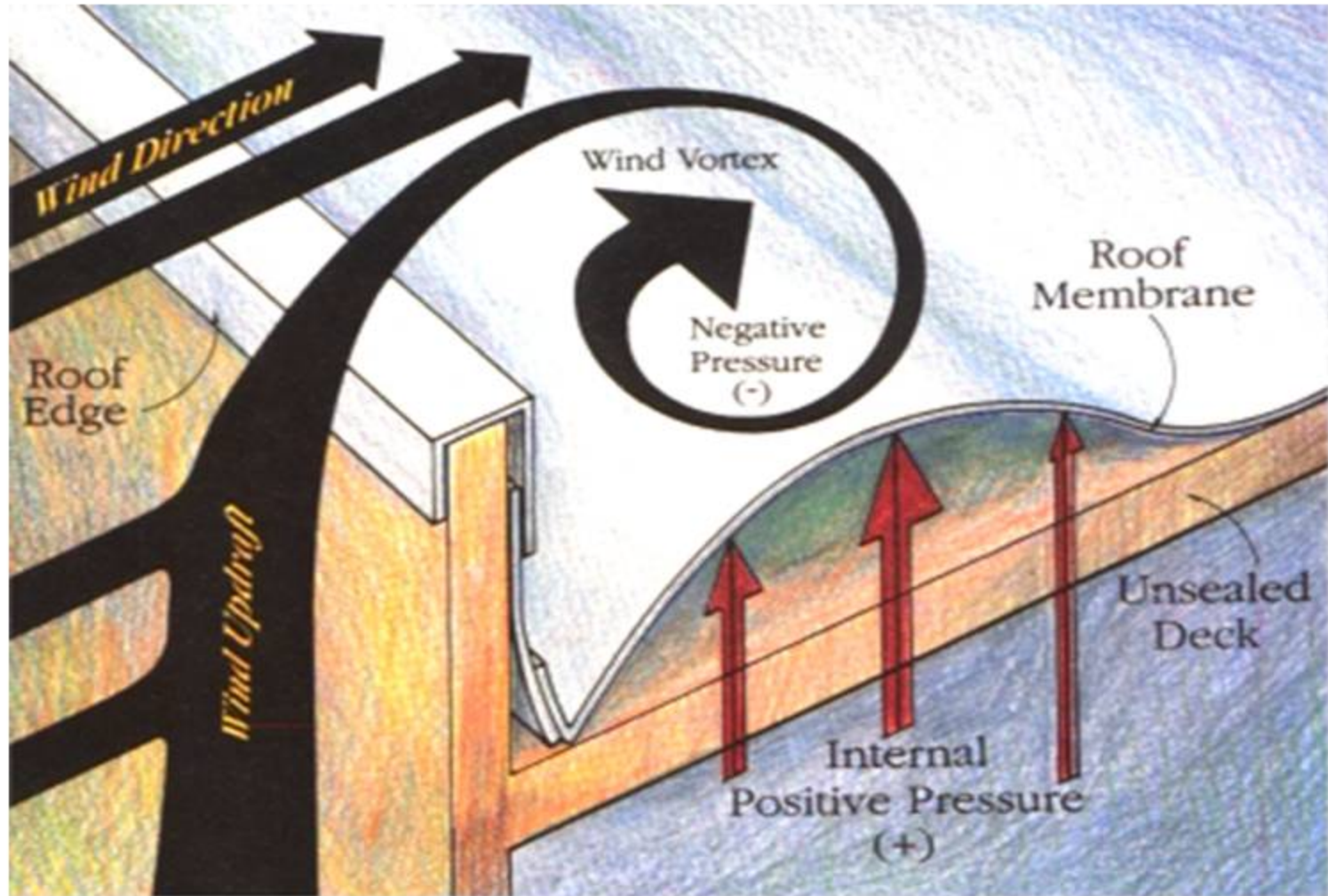
Two forces are required to tear a roof off a building. Negative and Positive pressure. These forces are measured by Pounds Per Square Foot or PSF.

Negative pressure is the suction created by wind as it blows across your roof system. The wind creates a vortex over the roof. This vortex is like a tornado but turned sideways rolling across your roof pulling at the system. This action is most severe in the corners and perimeter of the building.

Positive pressure is the pressure inside the building. When Negative pressure begins to lift the roof system, Positive pressure rushes up to fill that void and begins to push at the roofing system from the underside. With these two forces working together, the roof system is blown off the building.

During hurricane and tornado's, the damage from these pressures can be extreme.

**When wind hits the side of a building, it creates an updraft. When it meets the horizontal air stream, the updraft violently tumbles, creating a horizontal vortex like a tornado at the perimeter of the windward side of the building. This wind vortex creates a negative pressure “vacuum” that can tear off the roof assemblies.**



# How Does Our Technology Work?

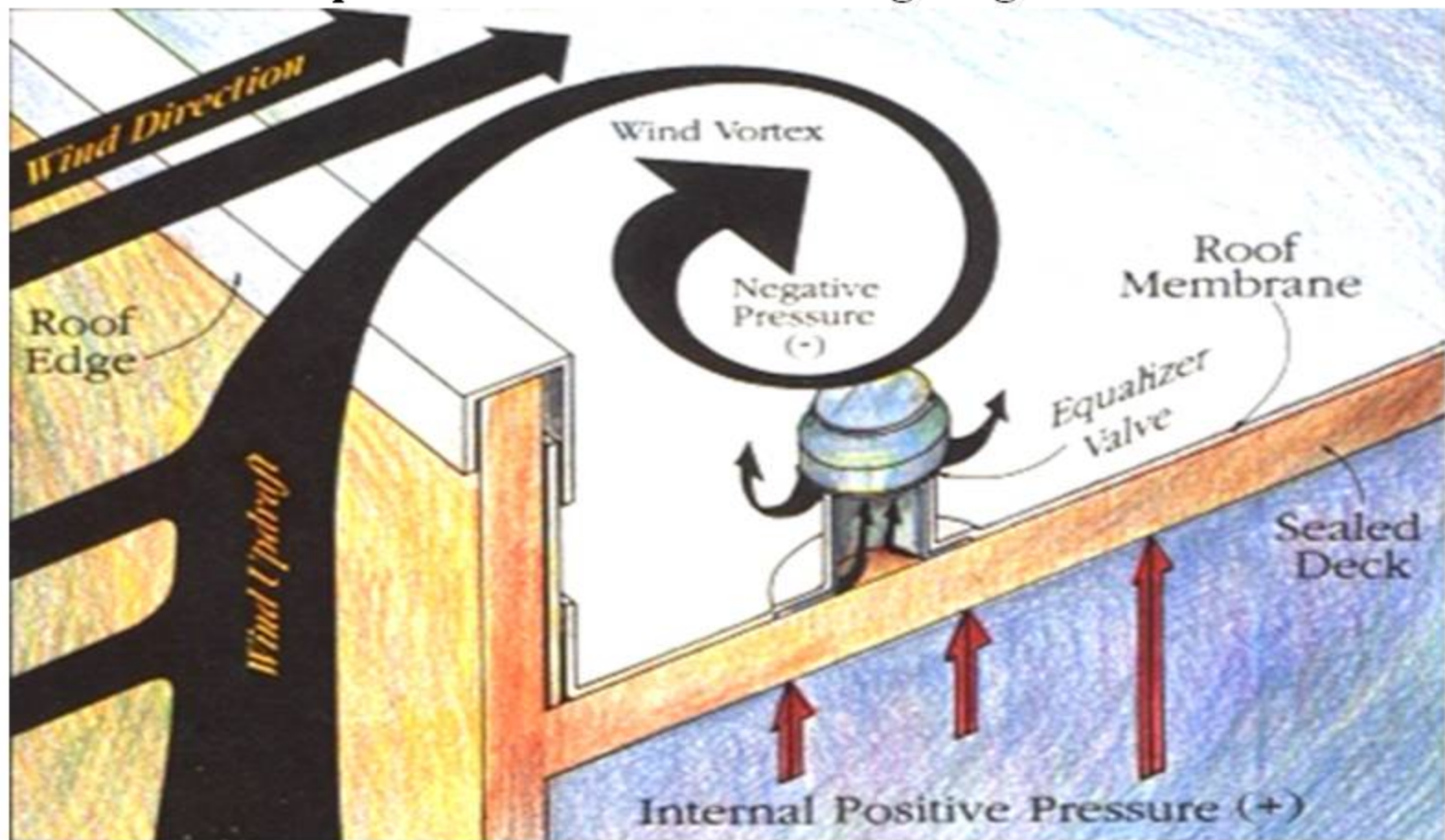
Wind being split by an airplane wing creates low vacuum pressure on the top of the wing sucking the wing upward creating lift.



Wind over the edge of a building creates Low Pressure Vacuums that try to suck a roof assembly off the building. These aerodynamics are similar to lift on an airplane wing.

# How Do Our Roof Systems Stay Secure?

While installing the roof system, we create an air seal to prevent positive pressure from entering up through the roof system. Equalizer Valves strategically placed in the vortex areas take advantage of the wind generated vacuum pressures and pull air and moisture from under the roof membrane. The suction created pulls the roof membrane tight against the substrate.



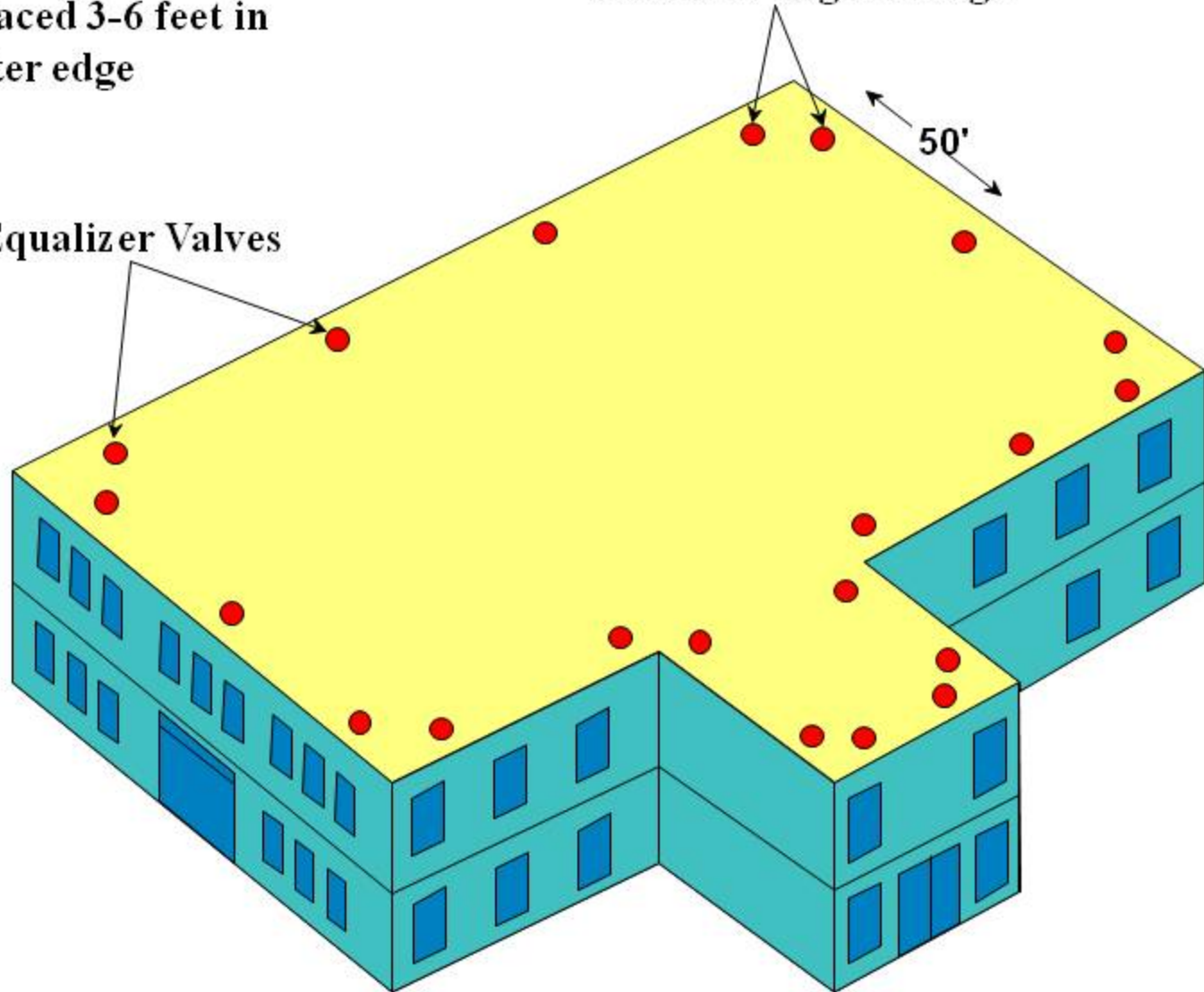
# Where Are The Valves Installed?

## Equalizer Valve Placement

Valves are placed 3-6 feet in from perimeter edge

2 valves at every corner or angle change

Equalizer Valves



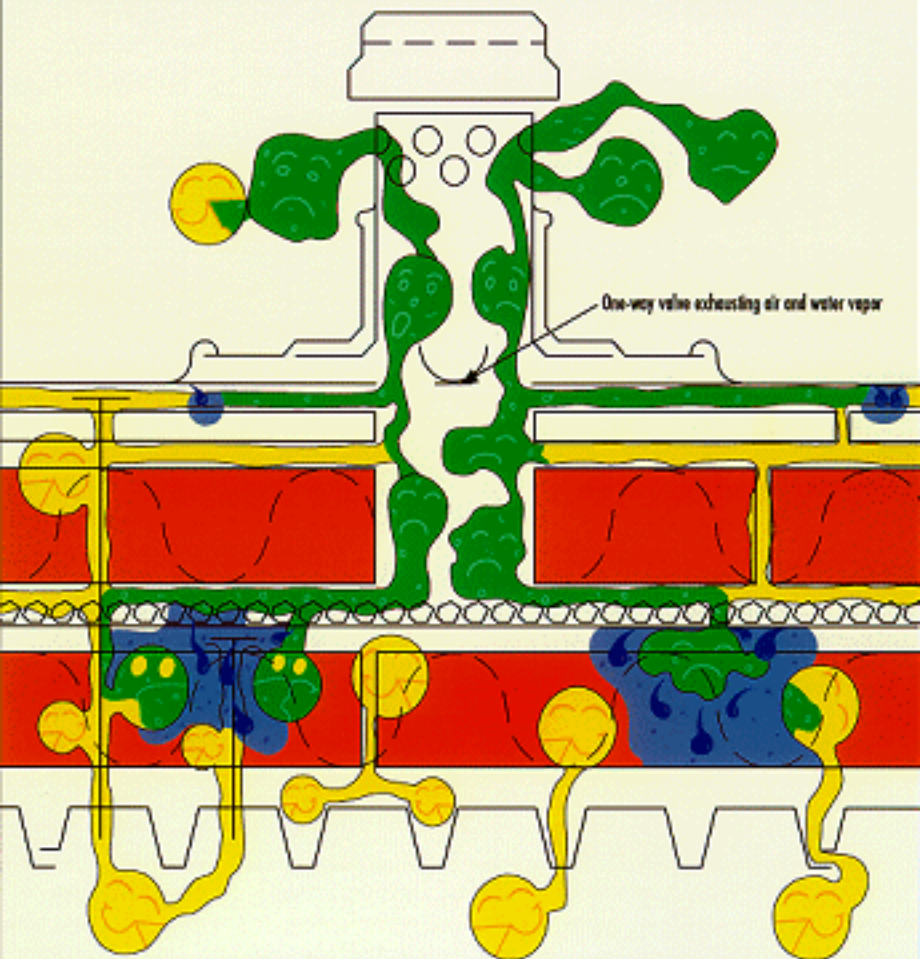
## **Our Wind Tunnel Data Base**

**2001 Company in conjunction with the Canadian Research Council has assembled a data base of 350 wind tunnel studies of various height, shape and size buildings.**

**If a Specifier is designing a building, he can contact us and we should have a wind tunnel study done on a building that is similar in size, shape and height for their use as a comparison to the building they are designing. This allows the designer to see how the wind will effect the building so an accurate design can be completed.**

## **Wind Uplift Coefficients**

**2001 Company also offers our services to assist the designer in calculating the wind uplift coefficient requirements for new and retrofit roofing projects. Our software for wind uplift is the latest on the market.**



**2001 Venting Technology** retards common roof moisture entrapment problems such as blisters, deterioration of membrane, adhesives, seams, flashings, insulation, fasteners, decks and other components of the roof assembly.