



January 2, 2015

Permeation Of The Existing Wet Roof For Self-Drying

A. **On a monolithic poured in place structural concrete, and gypsum type decks, and light weight insulated concrete fill decks, and air permeable decks sealed with a vapor barrier or air barrier:** The waterproofing membrane of the first and second roof are permeated by drilling a one inch (1") hole, one for every two square feet, or using a roof saw to cut both membranes two feet (2') on center across the roof in the wet areas. This permeation cut will allow water vapor to egress up through the old roofs and into the new 2001 Co. Wind Vented roof. This water vapor will condensate on the under side of the new 2001 Co. Wind Vented membrane cold surface in a heated building. This moisture accumulation under the new 2001 Co. membrane and separator is easily exhausted out through the **Equalizer Valves™** when the wind provides low pressure and controlled air exchange under the 2001 Co. roof membrane. This interaction of wind uplift pressure transfer, water vaporization and controlled air exchange under the new 2001 Co. waterproofing membrane will **self dry an existing wet roof.**

B. **On an air permeable roof decks without an air barrier/vapor barrier** (wood, metal, tectum, concrete, gypsum panel type decks):

The original first roof membrane serves as the air barrier/vapor barrier and must remain intact.

Self-Drying Permeation Sample Specification

Patch all holes, cuts, and existing roof membrane deficiencies. Trapped water below the first roof membrane will vaporize down into the building with convection air currents through the air permeable roof deck.

Only the 2nd roof assembly membrane above the first roof waterproofing membrane can be permeated for water vapor to egress up through the layers into the new 2001 Co. Wind Vented 3rd Roof.

In varying wind uplift low pressures the 2001 Co. Patented Wind Vented Self-Drying Roof will vaporize liquid water. This water vapor is exhausted out of the roof through the **Equalizer Valves™**, thus drying the wet roof assembly.

Do not drill or cut through the air barrier/vapor barrier 1st roof on an air permeable deck. If this 1st roof is the air barrier/vapor barrier that controls internal building positive pressure up through the roof assembly. This air barrier must be maintained in its integrity or the new 2001 Co roof will balloon and flutter causing an energy drain on the building. In addition, the new 2001 Co. Wind Vented roof will require mechanical attachment throughout the roof to remedy the holes in the 1st roof/air barrier.

Warning: This specification is not for cooler or freezer buildings where vapor drive is down through the roof assembly.

- C. **On an existing 2nd roof that is horizontally air permeable over an air sealed deck or substrate:** Examples, such as a mechanically fastened insulation system, or loose laid and ballasted roof over an original built-up roof that air can flow from one building perimeter edge to another, permeation of the 2nd finish roof membrane is not necessary.

When two roof assemblies exist on an air permeable metal, wood, or panel deck: The first roof is the air barrier. If the second roof is horizontally air permeable, such as a

Self-Drying Permeation Sample Specification

mechanically attached roof, DO NOT permeate the 2nd roof membrane before installing the new 2001 Co. Wind Vented Roof System.

The new 2001 Co. Wind Vented Roof **Equalizer Valve™** holes are cut through the existing roof membrane to the air barrier. This will bring wind uplift generated low pressure to the wet substrate to vaporize liquid water.

Horizontal controlled air exchange in the existing roof, from Leeward to Windward building perimeters will exhaust water vapor out the **Equalizer Valves™** thus drying a wet roof.

The 2001 Co. Wind Vented Roofs use wind generated vacuum pressures transferred through the **Equalizer Valves™** to develop low pressure horizontally throughout all roof assemblies.

Low pressure combined with controlled air exchange will vent water vapor out of the wet roofs restoring the roof assembly components to their dry insulating R-Value*.

Slower Non-Permeation Drying

Non-permeation of the existing roofs will take longer to dry than if the roofs were permeated through their top water proofing membranes allowing water vapor to migrate vertically up through the roof assembly. Slower horizontal drying works but takes a longer time period.

- D. **To accelerate the drying of any wet roof substrate, mechanical blowers can be installed to increase low pressure and controlled air exchange in the roof assembly:**

Self-Drying Permeation Sample Specification

2001 Co. can design a forced air drying system for the specific roof assembly and building usage to rapidly dry a wet roof substrate with T.L. Kelly patented wet roof drying techniques.

*R-Value resistance of a building material to allow heat to flow through it. The higher the “R,” the better the resistance.