January 2, 2015

Summary Specification to Install a 2001 Co. Patented Wind Vented Roof Assembly Over an Existing Ballasted Roof Assembly on an Air Permeable Metal Deck With Hurricane Back Wrap Air Seal For Buildings 30' or Less That Are NOT in High Wind Zones (Call 2001 Co. for High Wind Applications)

Preparation

1. **Check existing perimeter and penetration angle change terminations and flashings**: If any are ripped or deficient, or are shrinking causing bridging, re-anchor field membrane prior to gravel ballast removal to stop additional deterioration when the existing ballasted membrane shrinks.

   2001 Co. recommends installing the 2001 Co. Hurricane Back Wrap pre-flash details prior to removing gravel. This specification relies on keeping this membrane air tight. It must be repaired if necessary.

2. **Remove ballast rock from existing EPDM rubber roof membrane**: temporary ballast roof with bags of ballast rock, one per every 4' x 8' insulation board around the perimeter and one for every 10' x 10' area in the field of the roof.

   1st Warning: If ballast rock is removed, wind storms with building doors open can balloon up the roof membrane and dislodge the loose laid insulation to stack on top of each other. This will cause the roofer to cut the existing ballasted membrane and realign the insulation. Therefore during ballast removal, strong garbage bags can be ¼ filled with ballast rock to temporary ballast the existing roof membrane to keep from excessive ballooning. Another method to control wind ballooning is to install a 3 inch insulation washer and roof screw 10 feet on center over the ballasted roof membrane when the gravel is removed. (One fastener per square)

2nd Warning: Ballasted ISO Boards warp and cup when ballast rock is removed. ISO and urethane rigid roof insulation boards in heat and moisture can reactivate the curing cycle and grow, cup, and warp. These insulation boards must be mechanically fastened. Recommend removing ballast gravel on roof high slope areas working down to drains or drip edge. As soon as the ballast rock is removed and the membrane cleaned, mechanically fasten the new cover board option to the building code ASCE-7 Wind Code Requirements for building height and location. This will help to keep the membrane from ballooning in high winds and shifting of the existing insulation.

3. **After ballast removal**: sweep and vacuum up dirt and small rock on roof to find existing roof membrane deficiencies to patch and keep air tight.
4. **On single roof assemblies on an air permeable roof deck:** The existing roof membrane is the vapor barrier and the air barrier and it must be left intact: under the new 2001 Co. Wind Vented roof membrane on an air permeable roof deck. Patch holes, rips, tears, punctures, seam and flashing deficiencies in the old roof membrane to maintain the air barrier substrate.

Optional Rigid Roof Insulation

5. **Optional Rigid Roof Insulation**: Underwriters Laboratory (UL) Class A listed for surface fire protection ASTM E-108 rigid roof insulation, and cover boards, for the roof assembly and membrane chosen are mechanically fastened with a cover board over the existing roof membrane into the roof deck. Off-set the joints of multiple layers of insulation boards two feet (2') in length and width direction. Spray foam insulation gaps of ¼ inch or greater at perimeter and penetrations with a froth pack for energy efficiency.
6. **The Optional New Insulation Board and the Existing Roof Assembly is Installed With One of the Following Cover Board Options:**
    1. ½ inch Gypsum Wall Boards: Dens Deck, Structo Deck, Cement Tile Backer Board, and other approved water resistant boards.

2. ½" cement tile board.

   Note: Rigid roof insulation can be installed under cover boards. EPS 1-lb density or ISO insulation is an acceptable option under the above cover board options.

The insulation boards can be spot adhered in place with latex insulation adhesive or slow rise adhesive foam to keep in place from wind before being overlaid with the cover board.

7. If Required, Cover Board Fastening Pattern is determined by the area Wind Code ASCE-7 for Wind Speed and building location for the 2001 Co. Wind Rider requested on the specific building.

   Option A – 54 MPH requirements

   Install two foot (2') OSB hurricane back wrap approved 2001 Co. detail mechanically fastened with ten #15 deck screws and two inch (2") seam plate washers. This detail is installed at the roof perimeter and around all penetrations.

   The field of the roof is loose laid with 2001 Co. approved weighted cover board option. Cover boards should be offset/staggered by twelve inch (12") minimum.

   Option B – 90 MPH requirements.

   Install two foot (2') OSB Hurricane Back Wrap approved 2001 Co. detail mechanically fastened with ten #15 deck screws and two inch (2") seam plate washers. This detail is installed at the roof perimeter and around all penetrations.

   The field of the roof is overlaid with a 2001 Co. approved weighted cover board option and mechanically fastened with a minimum of five (5) #15 deck screws plus three inch (3") insulation plates per 4' x 8' cover board. Cover board should be offset/staggered by twelve inches (12") minimum.

Hurricane Back Wrap Air Seal

8. **Install Perimeter 2001 Co. Hurricane Back Wrap Air Seal Details**: to the ASCE-7 Wind Code for the building location to get a 2001 Co. Wind Rider.

   Do not permeate/penetrate a single, existing roof membrane for drying it is the air barrier. Drying will be downward into the building interior from convection air currents inside the building.

9. **Install 2001 Co. Optional with 2001 Co. Approved Double RUSS ZIPTAPE Picture Frame or Upside-down Cover Tape Air Seal Details**: on roof drains, skylights, roof vents and small raised interior roof penetrations for up to 80 miles per hour **Wind Rider** for buildings under 30 feet. Otherwise use Hurricane Back Wrap details throughout the roof for greater MPH Wind Riders.

10. **2001 Co. Roof Waterproofing Membrane**: single ply membrane is loose laid over the field of the roof cover boards, and adhered to the perimeter and penetration OSB hurricane back wrap details.

    Note: If the existing ballasted roof angle change terminations on masonry walls are in the same termination plane of the new 2001 Company Wind Vented Repair Membrane, install a tapered insulation 1 inch to 0 taper under the perimeter cover board to raise the angle change termination line above the exiting wall termination anchors for good holding power.

    Warning: DO NOT pull off the existing roof termination fasteners and install new over the same angle change area. This will cause a structural deficiency in the masonry vertical wall that will compromise the fastener holding capability of the new roof. Plus this wall destruction could send wall debris into the internal building.

11. **2001 Co. Equalizer Valves**™ are installed according to the 2001 Wind Vortex Intensity **Equalizer Valve™** diagram for the specific building. Cut a six inch (6”) hole below the Equalizer Valve™ down to the previously ballasted membrane but DO NOT cut the old membrane as it is the air barrier. **Equalizer Valves™** provide for added wind resistance and continual drying of the roof assembly.

12. **Finish Perimeter, Penetration, Vertical Wall, and Roof Top Equipment Waterproofing Flashings**: to 2001 Co. details and specifications. Wherever possible remove roof top equipment from the curb and extend wall flashing membrane up and over the curb and mechanically fasten it on the inside wall of the curb. Then reinstall the mechanical equipment.

    Note: Do not cover **through wall flashings** or **weep holes** in a vertical wall with a wall flashing membrane.

13. **Termination bars**: are installed on top finish edge of vertical wall flashings to 2001 Co. details. With a fastener 7" inches on center.

    Note: Pinned Metal extender flashings are not acceptable terminations.