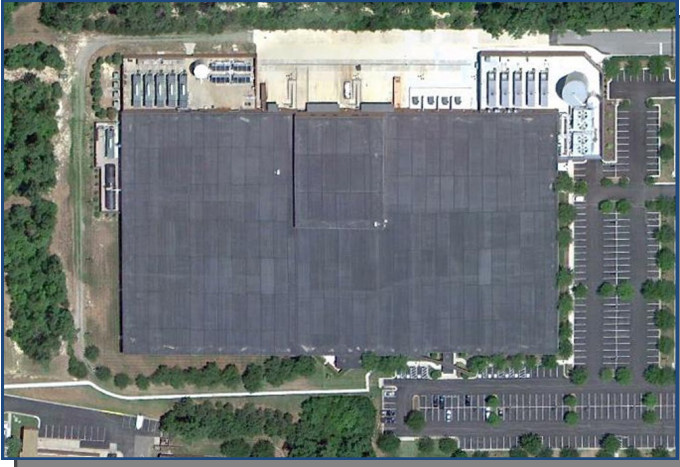


2001 COMPANY

Wind Vented Roof System Profile

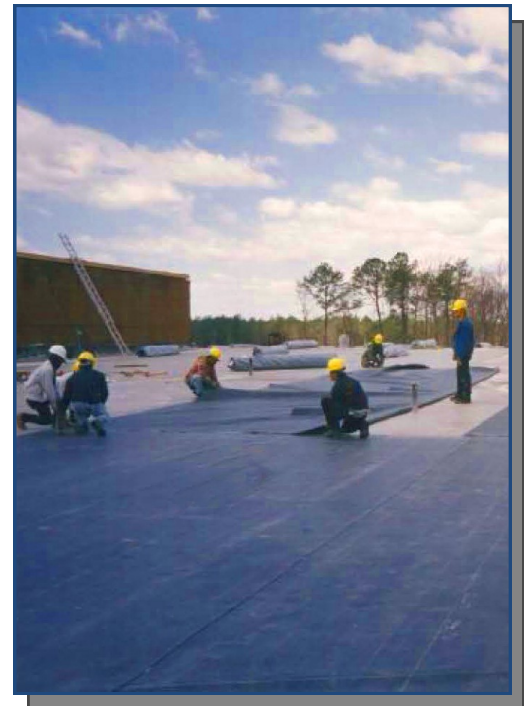


Capital One Data & Operations Center

4871 Cox Rd, Glen Allen, VA

- Install Year: 1996
- Roof Area: 201,500 s/f
- Membrane: 90 MIL EPDM (20' x 50' rolls)
- Existing Deck: Twin-T concrete deck with lightweight insulating concrete

Notes: This property was acquired by **Capital One Financial Corp.** The company planned to extensively renovate the building and grounds in order to operate the facility as their **Data & Operations Center**. The building was to house equipment valued over \$300 million and the facility's continuous, uninterrupted operation was essential. The architectural and construction consultants were to spare no expense to ensure the highest quality materials and construction practices were used. Roof membrane failures caused by high winds or heavy precipitation experienced by conventional roofing systems would not be tolerated. Therefore, the **2001 WVRS** was chosen.



2001 COMPANY

Wind Vented Roof System Profile



Workers pump lightweight insulating concrete to roof deck.



EPDM rolls placed upon deck surface saturated by heavy rains.

Capital One Data & Operations Center

2001 WVRS Dries A Saturated Roof

Continued: An aggressive construction schedule was set and the roof installation began in February of 1996. First, a layer of lightweight insulating concrete was applied over top of the sealed, concrete 'Twin-T' precast deck. Unfortunately, continuous rain storms plagued the project throughout February and March. The lightweight concrete could not set and was becoming saturated. In some areas, it was floating upon the sealed deck. In order to keep the rain from halting the interior construction schedule, the certified **2001 WVRS** installers had to loose-lay the **2001 WVRS** 90 MIL EPDM sheets regardless of the insulating lightweight concrete's condition.



Inspector notes water-saturation under loose-laid 2001 EPDM sheet.

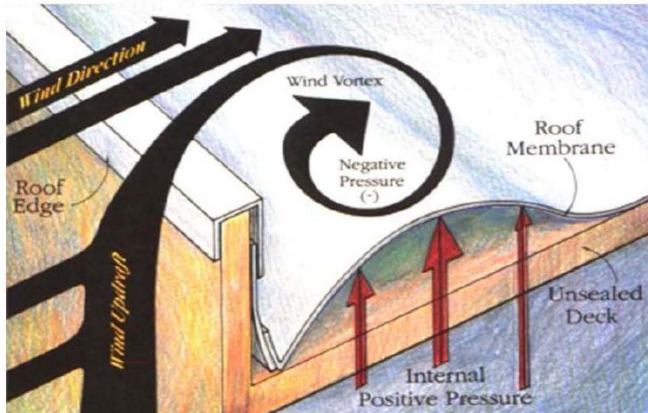
Rolls of 90 MIL EPDM in position to be loose-laid upon lightweight insulating concrete.



2001 COMPANY

Wind Vented Roof System Profile

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.

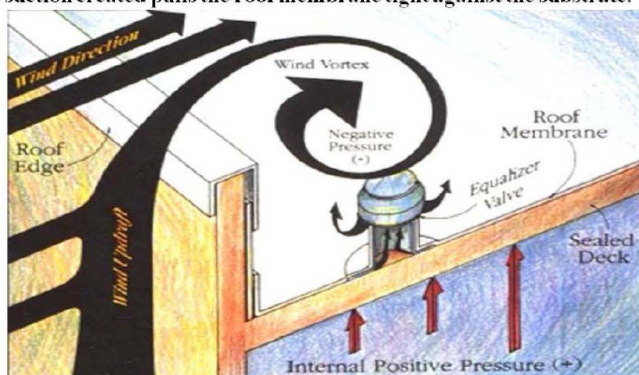


Capital One Data & Operations Center

Continued: Fortunately, the **2001 WVRS** is the only roofing system able to overcome such a potentially catastrophic circumstance. The **2001 WVRS** uses the power of the wind to create a vacuum between the roof deck and the **2001 WVRS** covering membrane. As wind blows over a building's edge, wind uplift low pressure is created. Equalizer valves transfer the wind uplift low pressure into the roof assembly. Any moisture between those two layers is turned into water vapor and exhausted out through the system's patented equalizer valves. The **2001 WVRS** has been scientifically proven to dry wet roofs. (French, Warren R. "Further Evaluation of a Pressure-Equalized Single-Ply Roofing System to Determine Drying Effects on a Moist Cementitious Roof Deck." RCI Interface September 2003: 5-12).

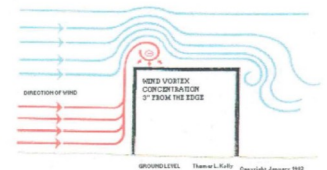
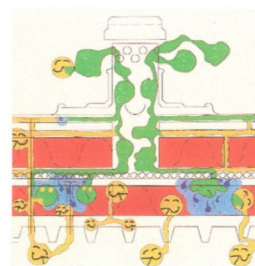
How Do Our Roof Systems Stay Secure?

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.



2001 FEATURES & BENEFITS

1. Continuous Drying Roof.
2. 150 MPH Wind Protection



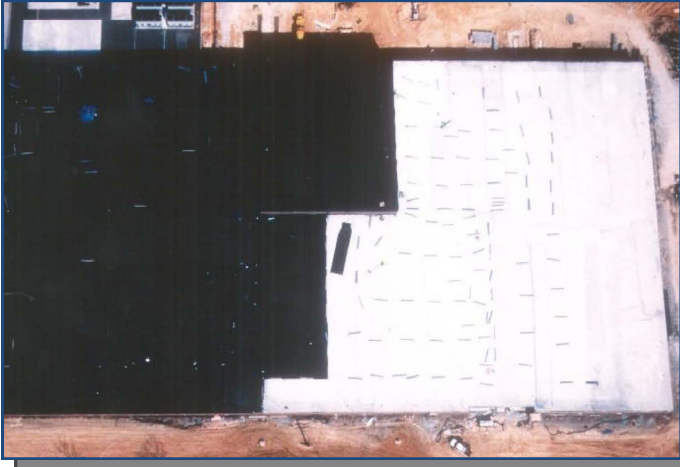
Wind Generated Low Pressures Are Transferred Into The Roof Assembly Causing Any Liquid Moisture To Vaporize And Be Drawn Out The 2001 Equalizer Valves Placed At The Perimeter Edge.

2001 Patented Roof Technology Places One Way Equalizer Valves At The Building Edge To Use Wind Uplift Vacuum Forces To Suck Air Out From The Underside Of The Roof Membrane.

This Benefit Requires A Sealed Deck To Work Best. The 2001 Patents Are To Air Seal A Roof Decks Edges And Penetrations

2001 COMPANY

Wind Vented Roof System Profile



Capital One Data & Operations Center

Continued: The *2001 Company* was confident the drying capabilities of their advanced roofing system would quickly dry the saturated substrate. **RAMCORP** roofing consultants would conduct independent, periodic assessments of the roof utilizing aerial thermography and core cut gravimetric analysis.

In less than one year, the *2001 Co Wind Vented Roof System* dried the entire substrate. **RAMCORP** conducted further research to determine if the moisture trapped between the roof and the deck had been transferred to the interior. Amazingly, **RAMCORP** discovered plant engineers had to install humidifiers due to the extremely low levels of interior moisture.



RAMCORP

Roof Asset Management Corporation

William F. Hale, RRC, RRO

Charles City, VA

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2001 Company

Wind Vented Roof Systems Since 1974