

Product Information

VaporWick Pipe Insulation is for piping systems that operate at below ambient temperatures, which present special considerations due to the possibility of water vapor migration to the cold pipe surface. VaporWick Pipe Insulation incorporates a patented concept that utilizes a unique wicking material to remove condensed water from the system, keeping the insulation dry. Water vapor that enters the system and condenses on the cold pipe surface is removed to the outer surface by capillary action, where it then evaporates to the ambient air.

Features and Benefits

VaporWick Pipe Insulation is an innovative product designed specifically for below-ambient temperature applications in severe hot and humid operating environments.

- Keeps insulation dry by using a specially designed wicking material that absorbs condensed water from the pipe surface and wicks it to the outside, where it then evaporates.

- Ideal for dual temperature installations because it is rated for operating temperatures which range from 32 degrees F to 220 degrees F.
- Meets model code fire requirements with a flame spread rating of 25 or less and a smoke development rating of 50 or less; this means the product will be granted building code approval for use in air plenums and other critical locations.
- Excellent thermal value, which contributes to lower operating costs at a favorable installed cost/performance ratio.
- Can be installed directly over wet piping so systems don't need to be shut down during the product's installation.
- Has a self-sealing lap seal with no need for staples or mastic.
- Resists mold and fungi growth.

VaporWick Pipe Insulation installed in the mechanical room at Powhatan Apartments, Old Dominion University



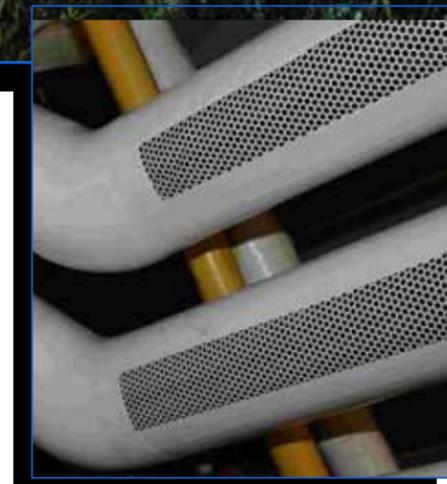
VaporWick Pipe Insulation can be fabricated in the field using a standard insulator's knife. The product can be fabricated in the same way as standard Fiberglas® Pipe Insulation. No saws or special cutting tools are needed.



VAPORWICK™ PIPE INSULATION

Passes University Exam

Old Dominion University



INNOVATIONS FOR LIVING™

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Old Dominion University has a beautiful campus with many attractive architectural features. Its location along the Atlantic coast in Norfolk, Va., adds to the beauty of the facility with lots of sunny days and warm, moist air to keep the gardens looking lush.

That beauty can come with a price, however, when high temperatures and high relative humidity meet chilled piping systems. Without effective insulation, the result is condensation that drips on floors, stains ceilings, rusts equipment and promotes the growth of mildew and mold. For maintenance personnel, it can mean unsightly mechanical rooms, time-consuming repairs and premature equipment failure.

One of the most serious problems at Old Dominion occurred at Whitehurst Hall, a six-story dormitory for up to 616 students. Condensation problems started at the 18-year-old building about three years ago when wet spots appeared on ceilings in first-floor rooms.

Above the ceiling is a plenum. Pipe goes to and from the air-handling units that provide the air conditioning or the heating. The pipe also goes into a vertical plumbing chase with stacked risers that reach each floor. The chase contains both hot and chilled water supply and return lines.

“In the summer, chilled water is running through the system and we have condensation leaks at the insulation joints,” says Carl Ballard, assistant director of Housing Services in the Facilities Management Department at ODU. Ballard and his team are responsible for all facilities maintenance, which includes housekeeping, air conditioning, heating, locksmith services and warehousing for the University’s dormitories



and apartments. ODU houses more than 2,400 students on campus.

At Whitehurst Hall, condensation is forming along the six-floor plumbing chase. “The water runs down the vertical pipe to the first floor and then travels horizontally to all the other piping going to the mechanical room,” continues Ballard. “At low points in the system, water drips onto the drywall ceiling. There are eight-foot-high ceilings on the first floor and the surface is drywall. We had to cut access panels in places that we had problems with condensation.”

To resolve the situation, ODU asked local insulation contractor C.E. Thurston & Sons to suggest something they could use to replace the insulation once and for all. After investigating the problem, Thurston & Sons recommended a demonstration project for VaporWick™ Pipe Insulation, a new product from Owens Corning designed specifically for chilled pipe applications. ODU agreed and VaporWick Pipe Insulation was installed in several mechanical rooms at Powhatan Apartments, a 23-year-old facility housing up to 384 upperclassmen.

Powhatan Apartments have two bedrooms, a bath-and-a-half, kitchen, a living room and dining room. Insulation was deteriorating in the mechanical rooms and also on pipe leading to individual apartments.

The apartment project was selected for the demonstration because it offered easy access to pipe that needed new insulation, and the pipe was exposed so it could be observed over time. Also, ambient conditions in the mechanical rooms would provide a good test with chilled pipe running through a hot and humid environment. After a full seasonal cycle, VaporWick Pipe Insulation is doing its job.

“The insulation is working fine,” says Ballard, 15 months after the product was installed. “I don’t see any indication of leaks. Everything looks good.”

Before the test, there were stain lines on the floors where condensation had dripped. The lines are now gone. With its bright white covering and small black holes where the wicking material allows condensation to evaporate, the insulation still looks new.



“The success of our new VaporWick Pipe Insulation has been verified in an extremely difficult application,”
Bill Sullivan - Owens Corning Sales Rep

“The success of our new VaporWick Pipe Insulation has been verified in an extremely difficult application,” says Bill Sullivan, Owens Corning sales representative for the Mid-Atlantic area. “The mechanical rooms tested the product under very harsh conditions – 90 degree Fahrenheit temperatures and 80 percent humidity with little to no airflow in the area. Chilled water is running at 39 to 40 degrees on the supply side and 54 degrees on the return side.

“We also did most of this project while the chilled water was running – the pipes were wet when we installed the VaporWick Pipe Insulation,” added Sullivan. “One of the biggest benefits of this product is the ability to apply it any time of the year, even while the piping is wet.”

Eliminating wet spots and stains is a key objective for Ballard and his staff, but not simply because they like things clean and neat. “Anywhere you have condensation you can have rust associated with it,” says Ballard.

Controlling moisture can help to reduce the likelihood of mold and mildew growth, and reducing moisture is what VaporWick Pipe Insulation is all about.

Problems with condensation are a time drain for the ODU maintenance staff as they are required to send people out to fix the problems.

“We want our facilities, including out mechanical rooms, to be clean and neat. We also know condensation will cause a calcium buildup over time that will damage the fittings and everything and cause the system to fail prematurely.”

When VaporWick Pipe Insulation passes its second-year exam, it should have plenty of opportunity to enhance the appearance of what is already a beautiful campus.



Project: Old Dominion University
Norfolk, Va.

Contractor: C.E. Thurston & Sons
Norfolk, Va.

Product: VaporWick Pipe Insulation in three sizes – 8 x 1-1/2, 6 x 1-1/2 and 4 x 1-1/2



Contractor Perspective

The mechanics at C.E. Thurston & Sons, Inc., have been working with VaporWick Pipe Insulation since the product was in the prototype phase. They like the way the product works and they quickly learned how to work with the product efficiently.

Phil Davenport, manager, insulation contracting at C.E. Thurston & Sons, says VaporWick Pipe Insulation is the biggest breakthrough in insulation technology he has seen in 25 years of industry experience.

“Owens Corning has taken a static product and made it dynamic,” says Davenport. “VaporWick Pipe Insulation actually operates – it lives and breathes. Most insulation doesn’t do anything but insulate. With VaporWick Pipe Insulation, if moisture gets in it has a way to come out through gravity and evaporation. There is a kind of a cycle to it.”

Davenport says fiberglass insulation has been pretty much the standard for many years. “People are familiar with the product and how it works,” he explains. “They have used fiberglass with chilled water systems for years but they had to be careful to get a good seal when applying it. Because of that, some people were reluctant to use fiberglass in chilled pipe applications.

“Rather than simply avoiding the chilled pipe market, Owens Corning has come up with a solution to the problem using the same material,” continued Davenport. “They created a way for moisture to get out if it enters the system. The company has taken a standard insulation and modernized it by giving it some new technology. This is a whole new use for the same material.”

Davenport says the product looks great when it’s installed. “It has a nice appearance with a unique polymer jacket. It has a good ‘memory’ where it bounces back if you bump up against it. If you get it dirty you can wash it off or clean it very easily.

“We used different mechanics to get different feedback on every job we did. They all liked working with the material,” continues Davenport. “They are familiar with fiberglass and that helps, and they like the way that it works and cuts. We also learned some things, such as cutting techniques and ways of positioning the material easily.

“I like the material and I want to use it.”