Slip Hazard Evaporates With VaporWick® Pipe Insulation

Doubletree Guest Suites, WALT DISNEY WORLD®

Case Study

Housekeeping Director Patience Collins remembers what it was like before VaporWick® pipe insulation was installed in the back hallways at the Doubletree Guest Suites in the WALT DISNEY WORLD® Resort.

"We were getting a lot of condensation which was dripping in the hallway," recalls Collins. "The pipe was always wet and it built up a lot of mildew. We took caution by putting safety strips on the floor because we were having accidents but you cannot keep up with wiping the floor when you have water dripping down every two seconds."

The solution? Paul O'Rork, Corporate Engineer for property owner FelCor Lodging Trust, ordered the installation of Owens Corning *VaporWick* insulation for chilled pipe.

"Once they installed the insulation," says Collins, "the problem went away. We still have the strips for safety reasons, but we don't have a dripping wet floor anymore."

According to O'Rork, the problem was caused by old insulation that had been on the pipes for many years and had broken down.

"When I walked into the property they had towels on the floor – room towels – all the way down the length of the pipe," he recalls. "They had several slips and falls.

"Since the installation of *VaporWick* insulation, I have not seen towel one, nor have I seen a drip of water on the floor. Everybody is very happy. The product has stopped all the safety issues, which is a critically important consideration."

VaporWick pipe insulation was first installed at the Doubletree Guest Suites in the *WALT DISNEY WORLD* Resort in June 2002. A second round of installation took place about 18 months later.

"We dealt with the back of the house first," explains O'Rork. "It is an open area and has a lot of humidity because the doors at the end of the hallway are open to the outside atmosphere.

"With the building as it is, you do get some intrusion of outside air in there and that's the main reason we had the bad condensate problem," he continues. "Since the *VaporWick* insulation was installed that problem has left and it has not returned. Everybody at the hotel is happy so far."

Chief Engineer Rawle Budhoo is one of those happy people.

> "It looks like new; no discoloration, no mildew, no water marks, nothing."
>
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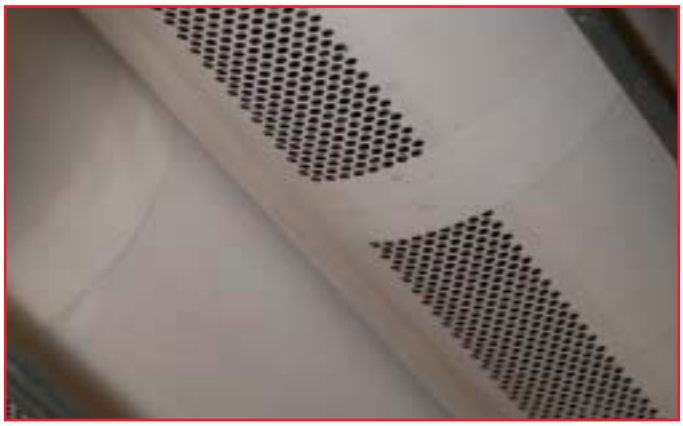

"It looks great," says Budhoo. "I have no leaks. I don't have any problem with it. I think it's functioning as it should according to the specs and I think we can use it throughout the building.

"It looks clean," adds Budhoo. "It looks like it was just done. I believe it was done about two years ago and it looks like new; no discoloration, no mildew, no water marks, nothing. It looks like it did when it was first installed."

While the story has a Disney-like happy ending, O'Rork says he had to overcome some doubters along the way.

"My mechanical guy was skeptical," explains O'Rork. "But the vice president said, 'Let's do it as a beta site and see how it works.'

"I told them *VaporWick* insulation is a way to manage the problem and it seems like it's doing a very good job at that.

"The biggest problem the skeptics had with it," he said, "is that the system seems to be open to the air somehow. I told them it is not open to the air. As the dampness wicks away and is dried out by the ambient temperature of the surrounding area, you don't have air getting into the pipe."

O'Rork says the dripping problem he encountered in Orlando is not unusual.

"A lot of our hotels are fighting this problem," he explains. "They were built a couple of decades ago and a lot of the chilled pipe systems have been compromised. Whether they even had the right insulation from the beginning or not, I don't know for sure. "Sometimes the system is compromised just through age and breakdown, or the vibration of the air handling unit. The saddles that hold the pipe can also slip. When they slip they can cut in the insulation and make a hole. Now we've got a drip problem.

"The biggest thing I'm finding is that the insulation was damaged and nobody did a repair on it," continues O'Rork. "Now we've got air infiltration and it's going to condense water and leak no matter what and there's no way to wick it away. There's no way to get rid of it unless you go in, cut it out, dry the pipe and re-insulate it with the ASJ jacket insulation and seal it up. Unfortunately, most of our people at the hotels do not have that capability.

"As a chief engineer of many years, I've seen this drip problem numerous times. And what did we do? We hung a towel over top of it and spread the towel out to wick the moisture away, so the air evaporates whatever drips we do have. That was the way we managed the problem. I'm not saying it was the correct way, but it was the quick fix."

That quick-fix wicking experience is what made O'Rork believe *VaporWick* pipe insulation would work at the Doubletree Guest Suites.

"It just seemed like it was right in the money and would do the job for us," he says.

Photos by Alan Smilie, Alan Smilie Photography, Orlando.

Features And Benefits

VaporWick® pipe insulation is 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.
- 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 and 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 fungus growth.

Precocious Pipe Insulation Passes University Exams

There aren't many three year olds who can pass university-level exams but VaporWick® pipe insulation has done it four times.

After nearly three years of service in a hot and humid environment at Old Dominion University, Norfolk, Virginia, VaporWick® pipe insulation was checked at the site and found dry to the touch. There were no telltale stains on the insulation or the floor that would indicate dripping since product was installed.

Samples were then removed and taken to a laboratory for microscopic examination by a veteran university professor of microbiology. After checking the samples with a 40-400x binocular microscope using fiber optic illumination for improved visibility, the professor declared the samples free of mold growth.

The professor also then tested fresh samples of VaporWick® insulation to see if mold growth would take place. For this test he placed samples in an environmental chamber for three months with 90 percent relative humidity and a temperature of 90 F. The result: Still no mold.

In a final exam, the professor subjected all the individual components of VaporWick pipe insulation to the 28-day ASTM C1338 Mold Resistance Test. Once again, VaporWick® insulation passed with high marks.

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