

Desiccant dehumidification systems speed construction of new Westin Hotel in Portland.

As the saying goes, the U.S. Postal Service will deliver the mail in any weather — rain, sleet or snow.

Those in construction must follow the same mission to deliver projects on time. Yet, builders face a multitude of weather conditions which present challenges that go beyond trekking up sidewalks, streets and stairs.

For builders erecting a new 20-story Westin Hotel in Portland, Oregon, and with an August 1999 grand opening deadline rapidly approaching, an unusual weather challenge was posed by Oregon's cold and damp winter months.

Builder contractor company Howard S. Wright had just completed in late December the sheetrock and taping of walls, with painting set to begin.

Since joint compound requires a mud consistency when applying it to taped joints, the temperature must be at least 55°F. This presented a problem because the building's heating system had not yet been installed.

Humidity was another issue. Three separate coats of gypsum based joint compound or "mud" needed to be applied and after each application the material must dry and then be sanded.

Because of the cold and damp weather conditions, the time spent waiting for the compound to dry could take four days or even longer, possibly hindering on-time delivery. Application of the water based paints was also disrupted in the wet Portland winter.

To avoid such delays, Howard S. Wright project manager Ron Eggerton sought a method to create an environment and climate at the work site to ensure construction would proceed at an optimum pace. He contacted Moisture Control Services (MCS), a division of Munters Corporation, and presented the challenge.

MCS, the country's leading firm in temporary humidity control services and a pioneer in the use of desiccant dehumidification technology, recommended temporary installation of a 4500 CFM desiccant dehumidification unit and one 500,000 BTU indirect natural gas air heater.

Desiccants are very effective in removing moisture from the air. Unlike cooling-based dehumidifiers, that cool the air to condense moisture out of the airstream, desiccants



The new 20-story Westin Hotel in Portland, Oregon, met construction deadlines using desiccant drying.



Drywall installation went quickly as joint compound dried in hours.



Munters desiccant dehumidifiers located in the basement, pumped dry air to the floors above.

attract moisture molecules directly from the air in a vapor phase. The MCS system features desiccants impregnated into a corrugated composite material formed into a Honeycombe® wheel that rotates slowly through a heated exhaust air stream where the trapped moisture is released outside the building.

According to Don Schnell, regional market manager of MCS, "By drying air surrounding the construction environment, moisture cannot be absorbed by building materials, condense on equipment or damage temperature sensitive supplies allowing projects to continue on schedule."

As the desiccant dehumidifier solved the humidity problem by maintaining the relative humidity (RH) level at approximately 30 percent, the air heater simultaneously addressed the cold temperature issue by raising inside air temperatures to around 65°F.

"We devised a creative solution to allow our drywallers and painters to work on three or four floors at a time," said Eggerton. "The two units were placed in the basement and connected to the building's vertical trash chute. Functioning as a duct, the trash chute pumped air to designated floors."

By controlling the RH level and temperature, the mud dried within 24 hours. This allowed workers to apply a coat of drywall on one day and then sand it the following day.

"We were very pleased with the performance of the units, their easy installation and the periodic monitoring by Munters MCS technicians," adds Eggerton. "I also appreciated the availability of the units on a temporary basis. By early April, we were able to remove the heating unit and by early May, the desiccant dehumidification unit was removed."



**MUNTERS CORPORATION
MOISTURE CONTROL SERVICES**

79 Monroe Street, Amesbury, MA 01913
TEL: (978) 241-1100, FAX: (978) 241-1215
TOLL FREE: 1-800-CAN-DRY (422-6379)
WWW: <http://www.muntersmcs.com>
E-Mail: moreinfo@muntersmcs.com