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THE NEWSMAGAZINE OF MECHANICAL CONTRACTING

HYDRONIC HEATING



Radiant floor revival

Higher efficiency and quick recovery make radiant floor heating economical in commercial/industrial applications

BY LARRY R. HOOPER
Of CONTRACTOR's staff

While people in our opinionated industry are constantly debating which form of heat is best for which application, not many would argue that hydronic radiant floor heat is probably the most comfortable. But its high initial installation costs and exotic reputation have relegated radiant floor heat to the luxury residential category.

But that's changing, and change is coming fast. While radiant floor technology's high first cost can't always be quickly amortized in residential installations, its benefits often make economic sense in both small commercial and large industrial installations.

Perhaps the greatest testimonial for radiant floor technology is under construction right now in Indianapolis. United Airlines' maintenance and repair facility. After years of research that included visiting airline maintenance facilities worldwide, United Airlines officials decided that hydronic radiant floor was the way to go for their facility, which broke ground in August 1992 and will be completed in 2004.

The 2.6 million sq ft facility will feature 11 hangers with 18 aircraft bays, administrative offices and other ancillary buildings. At this facility, United will repair and maintain its fleet of Boeing 737s and 757s everyday, around the clock.

United's facility is a perfect application for floor heating, says Joe Friedrich, president of Stadler Corp., Bedford, Mass. Stadler supplied the heating system for the project.



United Airlines tries the friendly floors of radiant heat

Installing the world's largest radiant floor heating system for United Airline's Indianapolis maintenance center are these mechanics for mechanical contractor Frank E. Irish Inc. It's a 2.6 million sq ft hangar facility that's scheduled for completion in 2004. Quick recovery and high efficiency make radiant floor heat perfect for this and many other commercial/industrial applications, says John Irish.



Mechanics for Frank E. Irish Inc. of Indianapolis install Stadler cross-linked polyethylene tubing for the hydronic radiant floor heating system in United Airlines' Indianapolis maintenance center.

Higher efficiency and quick recovery make radiant floor heating economical in commercial/industrial applications

Each hanger is 72,000 sq ft with 80 ft ceilings, Friedrich says. The radiant floor system keeps the heat on the floor where the people are working, he says. The giant floor radiator also warms the planes quickly, and dries up any water that drips on the floor.

Heat recovery is much faster as well, says John Irish, of Frank E. Irish Inc., the mechanical contractor on the job. Irish says when you open hangar doors for a plane to come in, all the air in the hangar may exchange with outside air. "If you were using an air system, it would take a long time to heat that air up again in winter," Irish says. "But with radiant floor, the minute the hangar doors close, the hangar is warm again."

But the biggest selling point in hangars, warehouses or similar structures where ceilings are high is efficiency, Irish says.

"The maximum temperature they'll be running on that hangar floor will be 100°. From there it will go down, not up," Irish says. "And the heat is where they need it, near the floor. There is no need to heat all 80 feet."

Irish says the radiant floor system will cost United from 30% to 50% less to operate than conventional systems.