Case Study

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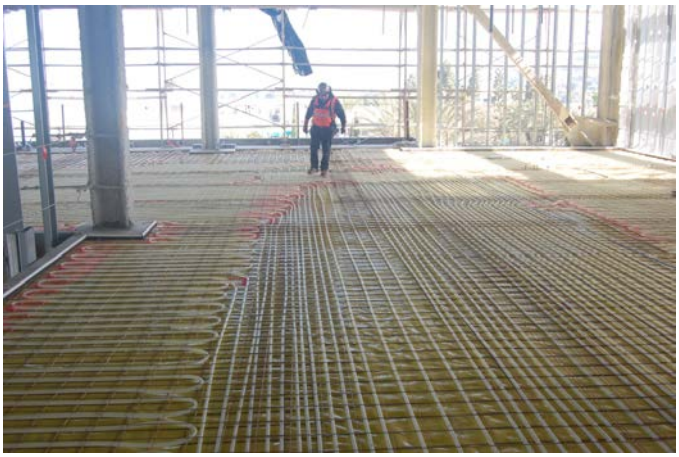
LEED PLATINUM BUILDING WINS INDUSTRY AWARD

PEX Pipe Heating and Cooling System Key to Honor

IRVING, Texas - When San Diego State University (SDSU) razed its student union building to replace it with a highly sustainable, 202,000-square-foot, three-story structure, the goal was to receive LEED® Platinum status. Not only did it qualify, but the project recently was also named a Project of the Year by the Building and Construction Division of the Plastics Pipe Institute, Inc. (PPI), the major trade association representing all segments of the plastic pipe industry.

In order to enable the new HVAC system at the new student union building to consume 40 percent less energy than a traditional system, an in-slab radiant heating and cooling system was installed. This was one of the qualifications for the building to meet LEED Platinum requirements. It also reduced energy use and improved indoor air quality. The system used more than 14 miles of PEX tubing from Uponor North America (Apple Valley, MN) in 36,000 square feet of floor space.

The LEED-Platinum SDSU Aztec Center is a project known for its sustainable design, including a green roof and an underground rainwater collection storage. Nearly 80 percent of the materials from the original building were recycled or reused in the new structure. Incorporating a radiant heating and cooling system that uses flexible, durable PEX piping for the in-slab system helped the project meet its design requirement of consuming 40 percent less energy while also offering greater comfort to occupants. Because water has the capacity to transport energy 3,500 times greater than air, a PEX-based hydronic system can heat and cool a structure using much less energy than a traditional forced-air system. And radiant heating and cooling aligns with the body's natural thermal curve, so occupants are even more comfortable with radiant than with a forced-air system.



More than 14 miles of PEX tubing was installed in San Diego State's new student union building.

Completed in 2014, the project used 75,000 feet of Uponor's ⅝-inch Wirsbo hePEX™ oxygen-barrier PEX tubing on three floors on the west side of the building to serve 36,000 square feet of space, including dining and lounge areas on the first floor and meeting and offices spaces on the second and third floors. The tubing was spaced 6" on center and fed by 21 Uponor Engineered Polymer (EP) Manifolds. The chilled and heated water is supplied from the campus central utility plant.

The PPI award was presented to Uponor during the association's annual meeting held in Coeur d'Alene, Idaho, May 3-6, 2015.

"With the emphasis on LEED and green building continuing to grow with each passing

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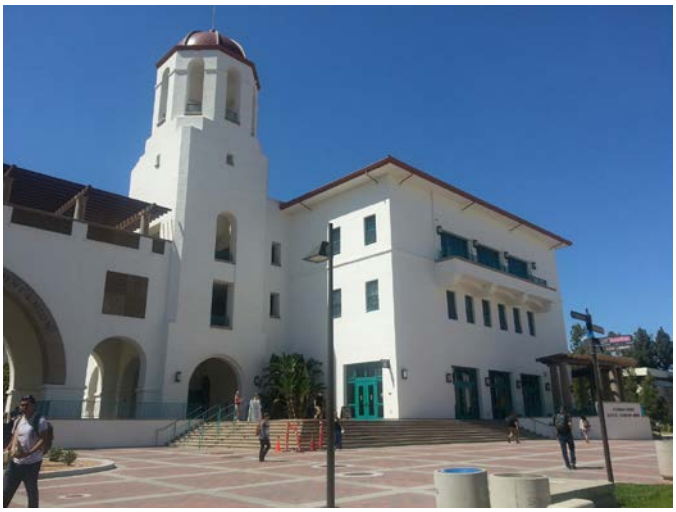
year," stated Tony Radoszewski, PPI president, "use of a PEX-based system in projects such as the University's new student center shows the importance plastic piping plays in sustainable building practices. It can effectively both heat and cool a large structure to keep occupants comfortable and also offer a 40 percent reduction in energy consumption. In fact, Uponor has seen significant growth in its radiant heating and cooling projects over the past several years primarily due to the sustainability of the system. Because projects can incorporate hydronic radiant systems into other sustainable building practices, such as geothermal, solar and a dedicated outside air system, it is an ideal option for large commercial structures that consume great amounts of energy.



The new SDSU Aztec Student Union Center is a new, highly sustainable, LEED-Platinum structure complete with a PEX-based hydronic radiant heating and cooling system that helped reduce energy consumption by 40 percent while keeping occupants comfortable all year.

"Using PEX in a LEED-Platinum project to help boost energy efficiency shows the value a PEX-based system brings to sustainable building practices. In addition, with the flexibility and strength of a PEX piping product that can be buried in the slab to effectively warm and cool a large structure, the professional community - including installers, project managers, architects and engineers - as well as the students, families, faculty and staff using the building, can see that PEX is a durable product that is manufactured to last for decades of successful use."

"PEX pipe is a product that satisfies the needs of homeowners, builders, and plumbers by providing long-term performance, and making installations more labor and cost efficient," according to Randy Knapp, director of engineering for PPI's, BCD. "PEX is the material of choice for radiant heating systems and is quickly replacing copper for residential potable water plumbing. Other applications of PEX include AWWA municipal water service; snow and ice melt systems; turf conditioning; residential fire sprinklers; and geothermal systems. Typically found in sizes from 3/8 to 2 inches and up to 3 inches in diameter, PEX pipe comes in straight lengths or coils and is made from proven high-performance materials."

The PPI Project of the Year recognition program honors significant industry contributions and professional achievements.

For more information, visit the Plastics Pipe Institute website: www.plasticpipe.org.

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