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Diversified Automotive, Inc.

Radiant provides comfortable, efficient heating
at New England automotive processing plant.

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A marathon's worth of REHAU radiant piping keeps automotive processing plant running hot

In the city that hosts one of the world's most popular marathons, it seems fitting that REHAU was called upon to supply just over 26 miles (43 kilometers) of radiant heating pipe for a new automotive processing plant.

The project was initiated for Diversified Automotive, Inc., a Boston-based automobile processing and shipping company that serves the Northeast. Diversified Automotive razed its existing processing plant, a dilapidated industrial building located on the Charlestown Pier, and replaced it with a state-of-the-art, \$10 million, 3-acre building that features more than 142,000 ft² (13,220 m²) of heated work space. The scope of the project had not been seen in the New England area since the installation of radiant heating in Gillette Stadium (home of the New England Patriots) some 15 years earlier.

The new plant processes approximately 40,000 new vehicles each year for a private Subaru distributor. It takes basic Subaru vehicles in one door and pushes upgraded models with top-of-the-line sound systems, lighting, seats, floor mats and other special features out the opposite end, ready for delivery to Subaru dealers mostly in New Jersey and New York.

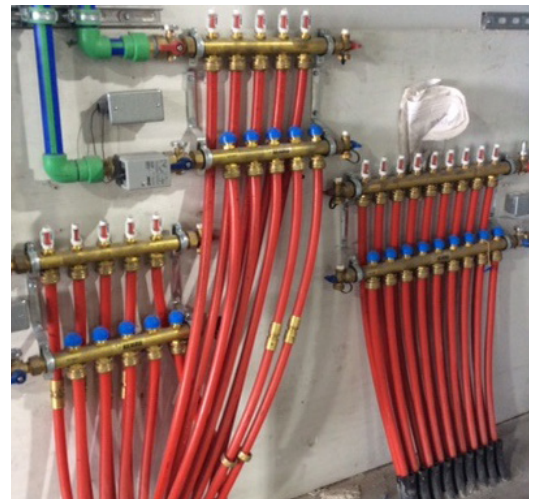
Avila Plumbing and Heating, a family-owned business based in Lawrence, MA, won the bid for the project and tapped REHAU to supply its radiant heating system. The hydronic system circulates heated fluid through the pipes located beneath the floor. The rise in popularity of radiant heating as an alternative to forced air is one indication of a greater awareness about the enhanced efficiency and comfort offered by these technologically advanced systems. In industrial settings with high bay ceilings, air ducts create heat stratification while radiant keeps the heat at the occupants' level.

Avila Plumbing Project Manager Bill Mower says the decision to partner with REHAU proved valuable far beyond the high-quality piping system itself. For starters, the plan specified 1/2 in. pipe with a few large zones. REHAU helped Avila optimize the design by recommending 3/4 in. RAUPEX crosslinked polyethylene (PEXa) pipe. The larger pipe diameter allowed for longer runs which maintained lower head loss resulting in reduced pumping power.

Additionally, REHAU proved to be a flexible member of the team as a number of design changes were implemented during construction. Key among the REHAU team's recommendations was the suggestion to modify the original layout in order to improve zoning and minimize the number of expansion joint crossings. The reduced number of crossings from 365 to about 115 also made installation of the expansive concrete slabs easier.

"The design documents that came from REHAU were invaluable as the system was installed, and so was the on-site support," says Darren Eisenhower, the Avila Plumbing project foreman. "We had questions that arose on site and our REHAU representative came by a bunch of times with important advice."

The radiant heating system's flexibility proved to be crucial even after it was installed. Because unused space was individually zoned, the developer was able to separately control the heat flowing to each rented space and charge the energy usage to the tenants.



Project: Diversified Automotive, Inc., Charlestown, MA
Construction type: Industrial, opened in 2014
Project scope: 26 miles (43 kilometers) of RAUPEX O₂ barrier pipe
Architect: Eisenberg Haven Architects, Inc.
Mechanical Engineer: Crossfield Engineering
Mechanical contractor: Avila Plumbing and Heating Contractors, Inc.
REHAU systems used: Radiant heating (RAUPEX® O₂ barrier pipe, PRO-BALANCE® manifolds)

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