

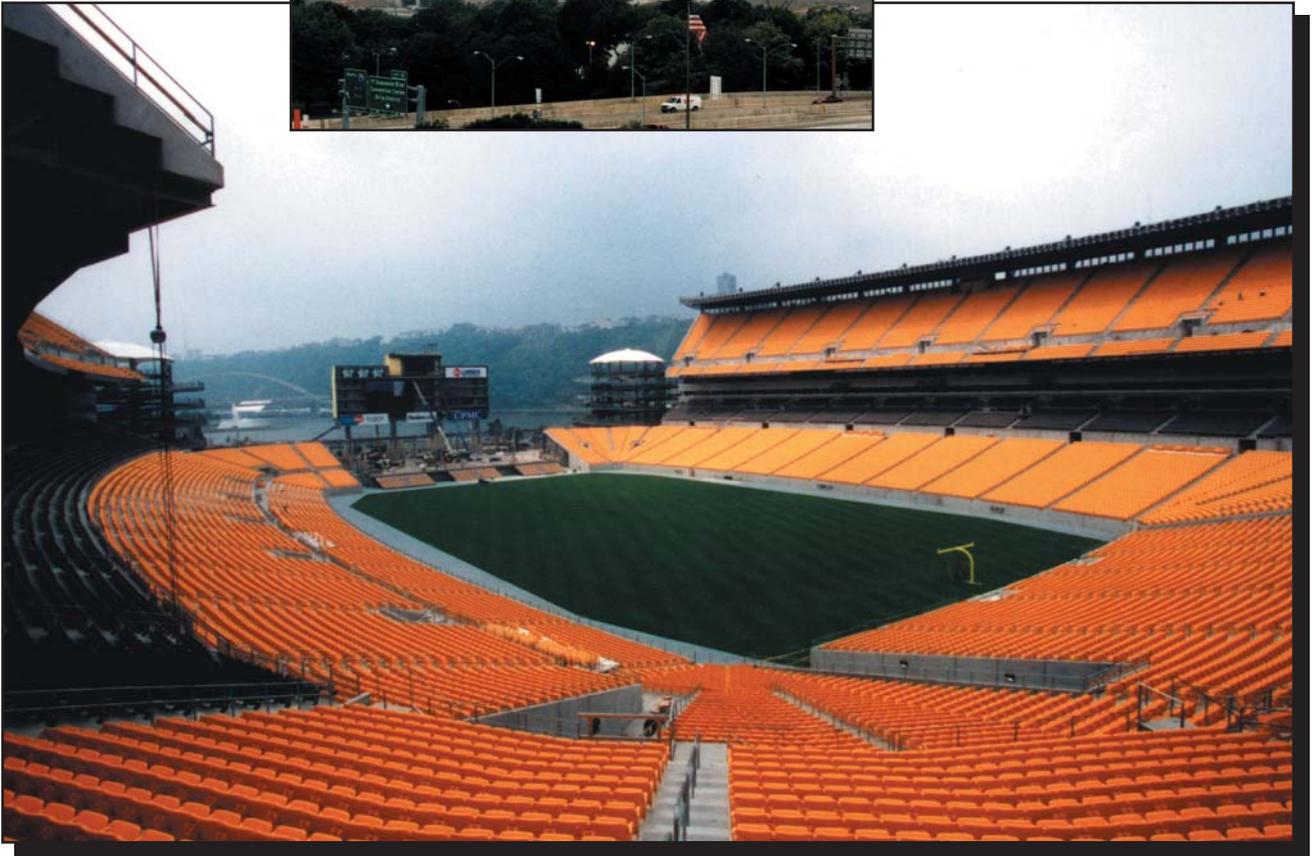


INNOVATIONS FOR LIVING™

Insulation in Pittsburgh's New Heinz Field Covers 13 Miles of Piping, Enough Ductwork to Span 5 Gridirons



Heinz Field, Pittsburgh, PA





INNOVATIONS FOR LIVING™

As the start of the 2001 football season approached, Pittsburgh fans were looking forward to welcoming the Steelers and University of Pittsburgh Panthers to the new \$200 million, 65,000-seat Heinz Field. As they prepared for afternoons of hard-nosed football, they could look forward to a soft life of drinking, eating, socializing in luxury suites or simply taking a bathroom break in the state-of-the-art stadium.

But these creature comforts wouldn't be possible without the stadium's more than 219,000 square feet of insulated air handling ductwork, enough to cover nearly five football fields, and 70,000 lineal feet – or more than 13 miles – of insulated hot, cold and drain water piping. That almost equals the yards gained by the all-time Steelers passing leader, Terry Bradshaw, in his 14-year quarterback career.

The piping and ductwork serve nearly every part of the stadium but the seating area, including 120 private suites, two three-story club lounges, restaurants, an indoor theater and the mechanical equipment room.

They also serve 343 lavatories, 520 water closets and 344 urinals – important enough for the Steelers to list on their Web site, perhaps anticipating the chronic halftime complaints of football fans that there aren't enough restrooms.

Implementing the \$2 million contract for mechanical insulation normally could have taken up to 24 months, said Vince Calderone, project manager for Allegheny Insulation, Pittsburgh, which installed the insulation for the piping and much of the ductwork. Instead, the job had to be completed in 18 months to meet the deadline set by the Steelers organization.

To ensure the necessary teamwork to stay on schedule, three Pittsburgh contractors formed a joint venture, SBS – the initials standing for the first letters in the name of each organization.



The contractors and their respective roles were Sauer Inc., for aboveground plumbing; Bryan Mechanical, Inc., for underground piping and plumbing and aboveground heating, ventilating and air conditioning piping; and SSM Industries, Inc. for sheet metal work and ductwork.

'Coordinate, Coordinate, Coordinate'

"The pace was difficult," acknowledged Jim Manion, project manager for SBS and Sauer. "It seemed like everybody was right up each other's back. The only way to avoid conflict and chaos was to coordinate, coordinate, coordinate. When we

[the three SBS parties] were doing our drawings, we used the architectural and structural documents to coordinate with the sprinkler and electrical contractors group. As the job went on, we also had to coordinate our installations with those for steel, masonry and concrete, the guys putting up the curtain wall, and the painters.



"These guys have worked together on different jobs," Manion said. "Everybody knows there's a lot of work that has to be done in a short period of time. The understanding is 'Let's work together.'"

Another challenge faced by SBS and by Allegheny Insulation to get the job done quickly – as well as safely – was installing and insulating chilled water and hot water piping in the 40-ft. ceiling of the stadium's Great Hall. This retail/entertainment area hosts special events such as banquets and may house a Steelers' Hall of Fame. The use of sizzor and boom lifts made it possible for the workers to reach this level. All necessary precautions, such as "tying off" the workers, were taken to ensure safety.

Insulation Delivered Promptly, Installed

Given the time pressures, the prompt delivery and installation ease of the Owens Corning mechanical and air handling insulation systems used on the job was particularly welcome.

"Excellent R-value was one of the most critical features in selecting the insulation," said David Hoover, Allegheny Insulation president. "But so were ready availability and ease of installation. Owens Corning did an excellent job of providing material to the site as required to meet the project schedule."

Allegheny Insulation installed Owens Corning SSL II® Fiberglas® Pipe Insulation to optimize system performance and save energy on domestic water, chilled water, heating hot water and condensate drain piping.

The insulation's factory-applied DOUBLESURE® (trademark of Morgan Adhesives) double pressure sensitive adhesive closure provided positive mechanical and vapor sealing of the longitudinal seam of the insulation's smooth, reinforced, wrinkle resistant all-service vapor retarder jacket. Two-part butt strip seals completed the fast, neat, foolproof and effective long-term closure. Not having to use staples and mastic helped increase productivity.

The Owens Corning fiberglass air handling system improves indoor air quality while conserving heating and cooling, preventing condensation and reducing noise. Allegheny Insulation installed two types of insulation on supply, outside and return air ductwork: Fiberglas® All-Service Type 75 Duct Wrap on concealed ducts and Fiberglas® Type 705 Insulation Board for improved performance around exposed ducts.

Easy Cutting, Fitting Speed Duct Wrap Installation

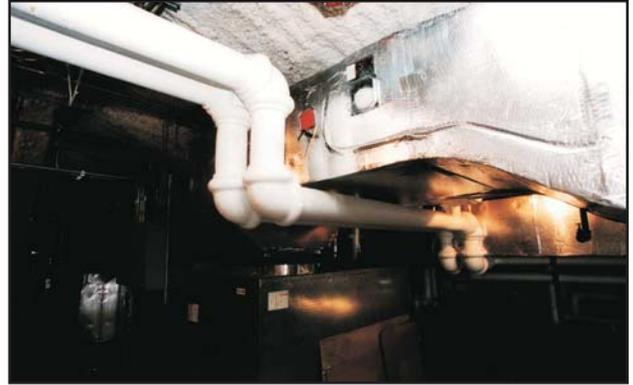
The Fiberglas® All-Service Duct Wrap helped to speed installation by being easily cut and fit to flat, curved or irregular duct surfaces for a neat, thermally effective insulation blanket. Fiberglas® Type 705 Board efficiently reduces sound transmission and resists abuse. Both insulations are faced with vapor retarder laminates of FRK (foil/scrim reinforcement kraft) construction. Thickness of the piping insulation, insulation board and duct wrap ranges from 1/2 inch to 2 inches.

SSM Industries fabricated and installed the stadium's remaining HVAC ductwork and terminal boxes, which required control of noise expected primarily from the stadium's fans – the air-blowing, not the cheering, kind.

The sheet metal specialists put in supply ductwork downstream of variable air volume terminals and fan-powered boxes; return air ductwork for four major terminal units, and supply and return air ductwork for fan coil units serving the stadium's 120 luxury suites, said Bob Lang, SSM project manager.

Duct Liner Provides 'Great Acoustic Performance'

Key to sound control is Owens Corning Aeroflex PLUS® Acoustical Duct Liner, supplied by G.V. Hamilton, a major Pittsburgh insulation contractor. On its sheet metal coil line in its plant only about a mile from the stadium, SSM automatically installed the 69,026 square feet of insulation onto the inside surface of the ductworks. "The only manual operation in assembly was gluing and pinning the liner to the fittings between

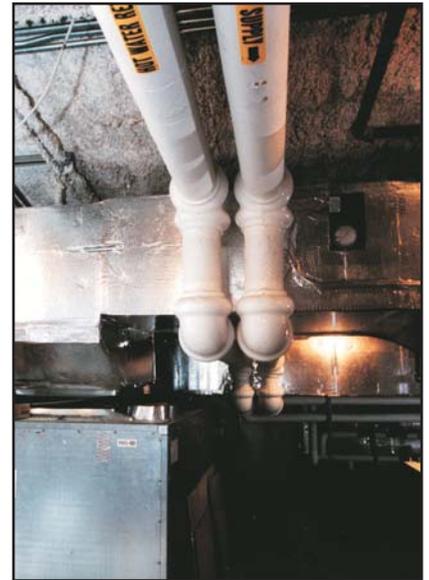
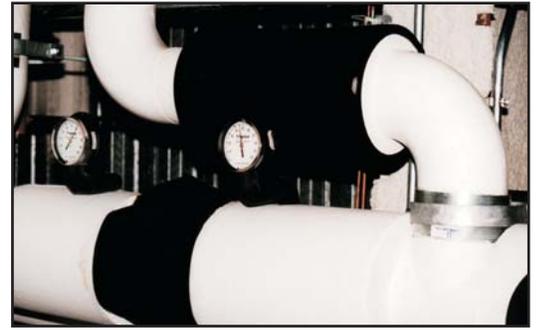


duct segments," said Bob Lang, SSM project manager. This factory assembly saved the extra step of having to install the liner on the job site.

"Aeroflex PLUS[®] Acoustical Duct Liner provides great acoustic performance," Lang said. "It has a tough, abuse-resistant and cleanable service, meets fire resistance codes and resists bacterial and fungal growth." Installed inside metal ducts, it improves energy efficiency and reduces noise transmission with the benefits of an acrylic-coated airstream.

Not only do the Owens Corning insulation systems cut installation time and costs, they will help lower operating costs over the life of the stadium. Energy savings stem from the low thermal conductivity of the Fiberglas[®] Pipe Insulation, the reductions in heat loss or gain through duct walls by Aeroflex PLUS[®] Acoustical Duct Liner and Fiberglas[®] All-Service Duct Wrap, and the reduced heat transfer from Fiberglas[®] 705 Insulation Board.

Construction of Heinz Field began in June 1999. Looking past the natural grass playing surface, fans could expect to enjoy a stunning view of the riverfront and downtown Pittsburgh through the horseshoe stadium's open south end. The stadium architect is HOK Sports Facilities Group, based in Kansas City, Mo.



INNOVATIONS FOR LIVING™

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