Early Diagnosis of Potential Problems Helps MLN Company and Victaulic Ensure Faster, Safer Hospital Expansion Project

Methodist Sugar Land Hospital, of Sugar Land, TX, opened a $300-million expansion to its facility in September 2008, more than tripling the number of beds and doubling its operating space. To beat the tight construction schedule common to hospital expansions, MLN Company used mechanical piping systems on the HVAC and plumbing systems throughout the hospital. They also relied on the mechanical joint manufacturer, Victaulic, and its Construction Piping Services (CPS) division to provide project management and coordination as well as to assist in including mechanical joining products in project drawings and to reduce material handling on site through its "bag and tag" services.

"I've used Victaulic for over 20 years, and I know that my installation time will be reduced by up to 30 percent," said Stan Whitfill, vice president of MLN Company.

Expansions can pose significant challenges to the daily operations of a hospital. For example, the hospital may have to relocate its entire emergency room or other critical space during an expansion or even reduce the number of surgeries performed in the hospital during construction. An unnecessary reduction in a hospital's ability to meet the healthcare needs of its community is bad enough. In today's competitive environment, hospitals cannot afford to lose patients or the income generated from surgeries. It is more important than ever for expansions and other new construction projects to come online quickly and efficiently.

Product Innovations Reduce Installation Time

Victaulic offers a complete line of products for mechanical piping systems that can be installed three to five times faster than other joining methods, such as welding or flanging. Its newest line of "installation-ready" couplings for both carbon steel and copper provide the fastest and safest way to install mechanical joints—there's no need to disassemble parts before assembling them at a joint.

For the Methodist Sugar Land Hospital expansion project, MLN Company chose the Victaulic Advanced Groove System designed specifically for large-diameter piping systems, which it could install quickly and easily on piping connecting the pump and chillers to the rest of the system.

For the Sugar Land hospital project, MLN required a piping system solution that it could install quickly and easily on the large-diameter pipe found inside the hospital mechanical room on piping connecting the pump and chillers to the rest of the system and also on the overhead distribution piping. Because of its proven strength and speed of assembly versus welded systems, Whitfill chose to install the Victaulic Advanced Groove System (AGS), designed specifically for large-diameter piping systems (14–24 inches).

Unlike other couplings for pipes this size that use multiple housings, Victaulic AGS couplings feature a two-piece housing and only two bolts for assembly, which greatly simplifies installation. Additionally, the patented wedge-shaped groove on the AGS line is deeper and wider than any other grooved system, providing increased coupling-to-pipe engagement for greater strength and reliability. The complete package of AGS products used on this project included rigid couplings, 90- and 45-degree elbows, flange adapters, mechanical-tees, reducing tees, reducers, suction diffusers and check valves.

On the smaller size HVAC piping (2–6 inches), Whitfill also wanted a piping system that could be installed more quickly and easily than a welded system. Whitfill chose the patented QuickVic® installation-ready coupling, which can be installed in half the time of standard grooved couplings and features no loose parts, which can be dropped or lost during installation. By using QuickVic couplings, Whitfill and his team not only found installation easier, but with no loose parts, the couplings were safer to install, reducing the risk exposure throughout the job.

"The QuickVic rigid coupling allowed my jobsite to remain incident free," Whitfill said.

Planning Ahead Identifies Potential Problems Early

Enhancing efficiency on the jobsite is about more than choosing the right products. It also involves planning ahead to help identify and correct potential problems early on. This is where the Victaulic CPS division comes in. For the Methodist Sugar Land Hospital project, Victaulic CPS provided MLN with fully coordinated

and detailed pad and equipment and piping layout drawings, which made installation of the equipment and mechanical piping systems much easier and error-free.

Victaulic CPS offers comprehensive estimating, pre-planning support, project management, drafting, and coordination, as well as software solutions for any size project. For the Sugar Land hospital, the Victaulic CPS team was asked to lay out and coordinate installation of the piping in the hospital's boiler room, cooling tower area, and mechanical room to incorporate the full-line of Victaulic products.

With a high level of attention to detail and accuracy, MLN and Victaulic were able to identify early on that the purchased chillers did not fit the space allotted in the original drawings. As part of the pre-planning process, they also discovered there was a possibility of interference with two concrete columns located in the middle of the mechanical room. The Victaulic CPS team helped revise the layout of the mechanical room and make the necessary changes to prevent MLN from incurring unnecessary rework costs or delaying the construction schedule.

Victaulic Services Reduce Material Handling, Facilitate Installation Ease

To further increase jobsite efficiency, Victaulic provided "bag and tag" delivery of product to the hospital jobsite to reduce material handling and facilitate quicker installation. Deliveries were made according to the construction schedule and clearly labeled with contents and site location to minimize clutter and to allow for quick routing of material to its proper location.

"Victaulic delivered materials right when and where we needed them," said Whitfill. "Prompt deliveries kept our project on schedule."

According to Whitfill, choosing innovative products and service solutions from Victaulic was critical to managing the tight construction schedule and meeting the need for greater efficiency on the jobsite at Methodist Sugar Land Hospital. Ultimately, he said, the project was a success because MLN managed risk by eliminating potential field issues through advanced project coordination, reducing material handling at the jobsite, significantly cutting piping installation time, and trimming jobsite manhours for maximum efficiency.

For more information, visit www.victaulic.com.

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Burns Brothers Mechanical Installs Jay R. Smith Mfg. Co. Siphonic Roof Drains on Shopping Mall, Saves Labor, Material Costs

Installing a Jay R. Smith Mfg. Co. siphonic roof drain system on the Carousel Center Mall addition allowed Burns Brothers Mechanical in Syracuse, NY, to save labor costs while the building owner saved money on materials. Where traditional horizontal piping requires eight-inch pipe, a siphonic roof drainage system can drain the same quantity of water with four- or five-inch pipes, translating to cost savings of around 40 percent.

The Jay R. Smith Mfg. Co. representative in upstate New York assisted Burns Brothers with the design and product education. They used the SiphoniTec® Siphonic Roof Drain Design software to ensure that all of the calculations were correct and that the installed system would work as engineered. Jay R. Smith Mfg. Co. siphonic roof drains (figure # 1005) were specified and used with the engineered siphonic system.

Siphonic drains work especially well for jobs with large, flat roofs. The drainage system can transport rainwater from the roof to a single point of discharge from the building. Burns Brothers realized several benefits by using a siphonic roof drainage system on the Carousel Center Mall addition:

- The smaller horizontal pipe diameters reduced material costs (two-, three-, and four-inch pipe was used vs. conventional six- and eight-inch pipe).
- The horizontal piping required less manpower to install, as the pipe was hung without pitch, saving labor costs.
- Fewer main rain leader conductors were used.
- Less sleeving and coring were used by installing one main riser as opposed to four risers.
- The below-slab piping allowed for separate main conductors as opposed to several connection points.
- The system allowed maximum use of space without intrusion of piping, avoiding elevation conflicts with HVAC and lighting systems.

For more information about siphonic roof drains and to download the free SiphoniTec® Siphonic Roof Drain Design software, visit www.jrsmith.com.

MCAA thanks Jay R. Smith Mfg. Co. for being a supporter of MCAA 2009 and for providing convention badges and lanyards.