

# CASE STUDY

## ASSOCIATED MECHANICAL PROVES THE VIABILITY OF CPVC PIPING FOR USE IN UNDERGROUND PARKING GARAGES

### Associated Mechanical Minneapolis, Minnesota

Established: 1976

#### Minneapolis-Based Contractor Discovers Time- and Cost-Saving Benefits of Using a Combination FlowGuard Gold® and Corzan® CPVC System

There is no logical reason to explain why CPVC pipe and fittings had not previously been installed in parking garages. There were no codes to prohibit the product's use. And there was no evidence to suggest that CPVC did not possess the necessary impact resistance, durability or fire performance characteristics to withstand the demands of a garage installation. Yet, parking garages, for the most part, have remained largely off-limits for CPVC piping systems.

That was until Joe Sand, president and founder of Minneapolis-based Associated Mechanical, calculated the cost savings he could realize by converting from copper to CPVC on an upcoming senior housing project that was built over a parking garage.

Sand, who is a loyal user of FlowGuard Gold CPVC piping, had previously not used the larger diameter Corzan CPVC pipe and fittings because of perceived installation challenges in transitioning from small to large diameter pipe. However, once Corzan Piping Systems expanded its line of reducing fittings (tees and bushings), which facilitated the transition process, Sand could find little reason not to take advantage of the many benefits of CPVC in larger pipe diameters.

"Within the past year we've started switching everything to CPVC for both small and large diameter," said Sand. To ensure that his crew was knowledgeable and comfortable with the newer, larger diameter product, Sand sent his roving superintendent and project managers to FlowGuard Gold CPVC product and installation training in Cleveland.

"The timing was right," said Sand. "With the new fittings to facilitate easy transitions, combined with the growing cost differential between copper and CPVC, it made a lot of sense for us to switch."

Associated Mechanical, founded in 1976, is a mid-sized mechanical contracting firm that specializes in commercial, industrial and multi-family plumbing and HVAC projects throughout the Midwest. In 2007, the company was awarded the Shepherd's Path Senior Housing project in Prior Lake, Minn. The four-story, 156-unit complex which allowed for independent living, assisted living and care for Alzheimer's patients, was to be built over an underground parking garage. It was the first time since Sand had converted his shop to large-diameter Corzan CPVC that he was faced with an underground parking garage.

"I started doing some research around the idea of also using CPVC piping in the garage," said Sand. "Although I couldn't identify any other projects in the area that had used CPVC in a garage application, I didn't come across any information that told me not to use it. It had the correct fire rating, and it passed the necessary flame and smoke requirements."

As one of the first contractors in the state to specify CPVC for this type of application, Sand was faced with the challenge

of educating code officials. "The state officials immediately recognized the benefits and had no problem with my decision," said Sand. "It was the local officials who were more hesitant. But with the assistance of the local FlowGuard Gold pipe and fittings sales rep, we were able to persuade the local officials without a lot of effort."

As a result, Shepherd's Path in Prior Lake became the first project (at least in the state) to include six-inch Corzan CPVC pipe and fittings not only feeding the units, but also overhead in the garage.

"My crew was very happy with the process," said Sand. "They claimed the Corzan pipe went in easily without any problems. The whole reason for using CPVC is its simplicity. The previous process with copper took too long. And there was more opportunity for installation error. With FlowGuard Gold and Corzan CPVC pipe and fittings, there are fewer mistakes made."



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**Type of Construction:**  
Parking Garage

**Installation Type:**  
New

**CORZAN**  
PIPING SYSTEMS  
**FLOWGUARD GOLD**

# CORZAN

## FLOWGUARD GOLD

In fact, the experience was so positive that, within a few months, Sand and his team started their second project which included larger diameter Corzan CPVC piping in an underground garage. The Flour Sack Flats, located in the historic milling district of Minneapolis, was part of a major renovation effort to convert the warehouse area into a thriving destination spot. Like Shepherd's Path, The Flour Sack Flats condominiums were built in a four-story structure above a parking garage.

And plans are already underway for another senior housing project located in Clive, Iowa, where both FlowGuard Gold and Corzan CPVC pipe and fittings will be used by Sand's team in the 180 units, as well as in the parking garage.



very important to tenants inside a multi-family project. It's also great for recirculation lines, because there are no problems with electrolysis or pipe deterioration due to turbulence and flow. Even more important is how well it holds up against hard water. There are some areas in Minnesota where the water contains a lot of calcium. We've gotten calls after only five years because of flow restrictions in copper pipes. Now the end user truly has a better product."

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"Each time, the education process gets a little bit easier," said Sand. "When you're the first, it's always tougher. But we're even using FlowGuard Gold and Corzan CPVC piping in plenums and getting the code officials to approve it."

Sand also appreciates the safer installation process. By joining with solvent cement he can avoid fire or other risks associated with the use of soldering irons. "It's faster, easier and safer to use. It's just a better system," Sand concluded.

This isn't the first time that Sand has pioneered a new concept in his local industry. "I believe we were one of the first contractors in this area to use FlowGuard Gold CPVC pipe and fittings," said Sand. "We immediately liked the product."

Since Lubrizol Advanced Materials, Inc. (as part of BFGoodrich Performance Materials) developed CPVC plumbing systems over 45 years ago, more than four billion feet of CPVC pipe has been installed in homes, condominiums, buildings, apartments and hotels, including more than 12 million homes. For more information on the FlowGuard Gold® plumbing system, including pipes, valves, joining cement, caulks, sealants and tools, call 888-234-2436, x447-7393, or visit [www.flowguardgold.com](http://www.flowguardgold.com).

Sand's continued support for FlowGuard Gold and Corzan CPVC goes beyond the recognized time and cost savings. "A great selling point is that it's quieter than copper," said Sand. "Although that doesn't mean much in a parking garage, it's

**CORZAN**  
PIPING SYSTEMS  
**FLOWGUARD GOLD**

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