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# CORZAN CPVC PIPING SYSTEMS

How these pipes make your HVAC system run more efficiently

By Laura Rote

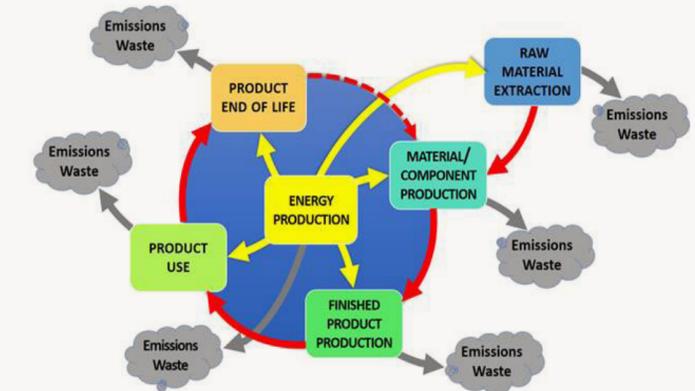


Corzan CPVC meets strict temperature, pressure, and size requirements of commercial heating and cooling systems.



## LIFE CYCLE ASSESSMENT

What exactly is an environmental life cycle assessment (LCA)? LCAs are used to assess the effects of a product across its lifespan—from the extraction of raw materials to processing, transport, use, and disposal.



Corzan Piping Systems' pipe and piping systems can take the heat—literally. Since 1958, Corzan CPVC—specifically engineered by Lubrizol Advanced Materials to outperform metal in harsh environments—has been used for pipes and fittings. The thermoplastic easily withstands the temperature and pressure requirements of most hydronic HVAC systems.

Corzan CPVC is one of the only piping materials that can resist biofilm growth and withstand ASHRAE 188-compliant decontamination procedures, which typically require high-temperature or highly chlorinated water. That ability to stand up to harsh environments is especially useful in coastal areas where you'd often see metal pipes corrode, says Rob Janowiak, market manager of North America commercial plumbing for Lubrizol Advanced Materials, which includes Corzan Piping Systems. "You don't have to worry about that with Corzan," he says. "It won't corrode."

### Proven Resistance

Take, for instance, a recent hotel project in St. Augustine, Florida. "One of the reasons they chose to use Corzan is because corrosion is a huge issue for them," Janowiak says. Even over the course of a few months, the team could see how the metal components that were part of the hotel's HVAC system were already experiencing corrosion, as compared to the CPVC pipes, which were not. "Corzan is not subject to those types of issues. When you talk about harsh environments, that's one. Saltwater air can be extremely damaging to metals."

CPVC, or chlorinated polyvinyl chloride, resists chlorine, monochloramine, and chlorine dioxide. "Unlike other plastics, CPVC requires no antioxidants to prevent oxidative degradation from these chemicals," Janowiak says. "We are a chlorinated product to begin with, so by our

very nature we are impervious to chlorine." CPVC also requires no additives or maintenance to prevent corrosion.

Properly installed CPVC piping systems stay strong throughout the life of the system, too, in an effort to prevent environmental releases. This resilience can reduce downtime and maintenance, further improving the efficiency of the application that the CPVC system is servicing.

### Huge Benefits

But CPVC outperforms metal in a number of other ways, too. For starters, it's both highly durable and lightweight—a lower weight than most metal piping—so you have more options for where you can run pipe. "The lightweight aspect also helps the installers place it properly with less stress on them," Janowiak says. Additionally, there are some building instances where you may not want to apply unnecessary weight, making CPVC the obvious choice. Its lightness also means it takes less energy for freight and is easier to install overall, requiring less equipment.

"Prior to this job we were not familiar with installing CPVC," says Jason Scott, project manager for CCS Mechanical. "After learning the proper methods, the team found Corzan pipe and fittings easy to work with. We are also planning to use it on future jobs."

CPVC is also simpler to install because it doesn't require torch work, so specialized labor isn't needed, saving time and money. "The labor hours to make a CPVC joint in relation to a steel joint can often be less than half

if not a third," Janowiak says.

And considering the rising cost of steel, he says CPVC is more of an economical choice than ever. "It can definitely bring a project that was possibly exceeding budget back on track."

Corzan CPVC pipe is code approved, too—meeting the 25/50 flame spread/smoke developed requirements of the International Mechanical Code (IMC) and the Uniform Mechanical Code (UMC) for installation in plenums when tested in general accordance with ASTM E84. The material is also self-extinguishing, meaning it will not sustain a flame.

### CORZAN CPVC AT A GLANCE

- ⇒ Resists biofilm growth and corrosion
- ⇒ Cuts labor time in half or more
- ⇒ Code approved
- ⇒ Doesn't require torch work
- ⇒ Highly durable and lightweight

### Sustainability

Recent life cycle assessments show that the cumulative energy requirements to manufacture, transport, and install CPVC piping systems are substantially less than most non-plastic piping systems. As a thermoplastic, CPVC is recyclable within the manufacturing process as well as at the end of product life. And, of course, considering their resistance to corrosion, Corzan's pipes last longer, further reducing waste when it comes to replacement.

It's operationally efficient, too, as its interior surface is significantly smoother than that of metal pipes. Unlike some metal pipe surfaces, which can pit as well

as corrode, CPVC maintains a smoother surface over the system's life. That also means a smaller diameter pipe can be used. Add to this that CPVC can last for decades, and CPVC is a no-brainer—both for your wallet and the environment. ●