

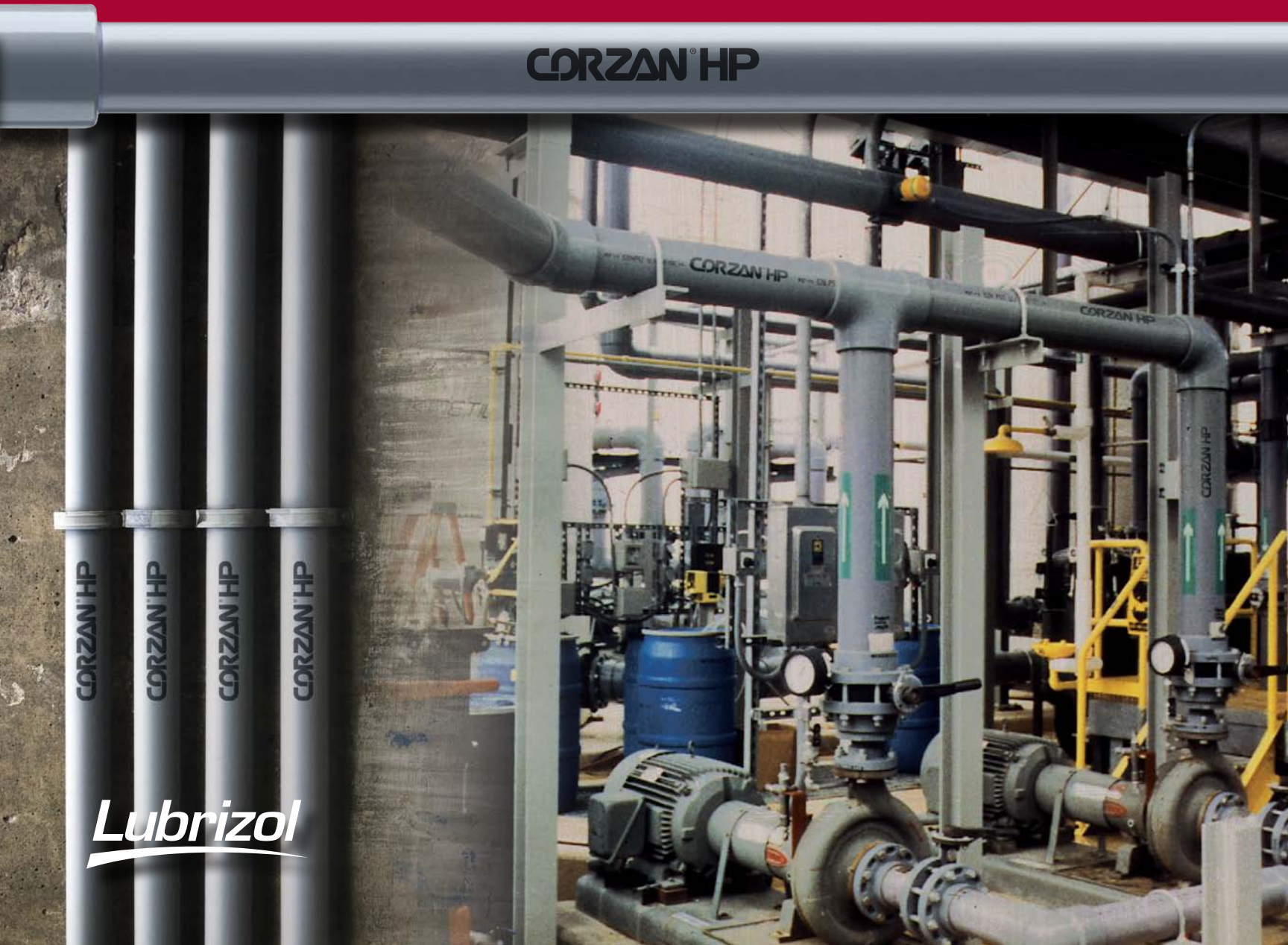
Understanding the Corzan® HP Advantage

Superior Performance In Tough Industrial Environments

CORZAN® HP

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Lubrizol



Industrial operations demand a piping system that can stand up to a wide array of extreme challenges. **Corzan® HP** pipe and fittings, made of durable chlorinated polyvinyl chloride (CPVC), have proven they are up to the challenge. With their superior resistance to corrosive chemicals and high temperatures, they provide a reliable, low-maintenance and cost-effective solution in even the toughest process environments.

CORZAN® HP

PIPE AND FITTINGS

No other industrial system – metallic or non-metallic – performs better.



Discover the HP Difference.

The only pressure rated system for both pipe and fittings.

With its 50+ year successful track record, Corzan® pipe and fittings have already proven they can perform reliably under pressure. Now, Corzan™ has set a new standard for performance with its Corzan® HP pipe and fittings. Available in sizes up to, and including, 8" diameter, Corzan HP pipe and fittings feature a pressure rating that's 25% higher than standard CPVC at 180°F (82°C). That means even greater peace of mind.

The Corzan HP system – **including pipe and fittings** – is the only Schedule 40 and 80 CPVC system available that is pressure rated.

NSF International has tested and certified Corzan HP pipe and fittings to provide third-party credibility for the system's higher pressure rating.

- ▶ ONLY PRESSURE RATED SCHEDULE 40/80 CPVC PIPING SYSTEM AVAILABLE– BOTH THE PIPE AND FITTINGS ARE PRESSURE RATED
- ▶ 25% HIGHER PRESSURE RATING THAN STANDARD CPVC AT 180°F (82°C)
- ▶ THIRD PARTY CERTIFICATION OF THE SYSTEM'S HIGHER PRESSURE RATING

Corzan HP Pipe & Fittings Pressure Rating (psi)

Maximum Water Pressure (psi)		@ 70°F		@ 120°F		@ 180°F	
		Standard CPVC	Corzan® HP	Standard CPVC	Corzan® HP	Standard CPVC	Corzan® HP
Schedule 80 Pipe Size (in.)	½"	850	850	553	595	213	264
	¾"	690	690	449	483	173	214
	1"	630	630	410	441	158	195
	1¼"	520	520	338	364	130	161
	1½"	470	470	306	329	118	146
	2"	400	400	260	280	100	124
	3"	370	370	241	259	93	115
	4"	320	320	208	224	80	100
	6"	280	280	182	196	70	87
8"	250	250	163	175	63	78	

The expected service life of a piping material can be compromised by many variables. For metallic systems, corrosion is a serious and persistent problem in many industries. For other non-metallic piping materials, impact strength and temperature resistance may cause limitations. But **Corzan® HP** pipe and fittings offer a major competitive advantage in all of these areas. Not only is CPVC naturally immune to the effects of pitting, scaling and corrosion, but pipe made of Corzan HP CPVC offers greater impact resistance and the highest HDT of any CPVC compound on the market today.



Pipe in a class by itself.

Why?

Because Lubrizol has the only CPVC **certified** to the higher cell class of 24448 as defined by ASTM D1784. As a result, Corzan HP pipe offers chemical process industries a drop impact strength up to three times that of standard CPVC and an HDT rating of 232°F (111°C), the highest of any ASTM D1784-compliant CPVC.*

The ASTM D1784 standard assigns a numerical value (or cell classification) to the tests results for each of four physical property tests. This third-party certification shows Corzan HP CPVC has earned a rating higher than the 23447 cell classification for standard CPVC compounds.

Such durability, combined with a proven record of unparalleled corrosion resistance, make Corzan HP pipe and fittings an ideal solution for applications that require corrosion resistance and high-temperature performance.

* Corzan pipe is available through 24" diameter. Corzan HP pipe meeting the 24448 cell class is available through 8" diameter.



After years of service, the Corzan® pipe shows no sign of corrosion, scaling or degradation.



Metal pipe shown here exhibiting both internal and external corrosion.

Corzan HP Pipe Offers Chemical Process Industries:

- ▶ A DROP IMPACT STRENGTH UP TO THREE TIMES THAT OF STANDARD CPVC
- ▶ AN HDT RATING OF 232°F (111°C), THE HIGHEST OF ANY ASTM D1784-COMPLIANT CPVC
- ▶ ONLY CPVC WITH A CERTIFIED CELL CLASS OF 24448
- ▶ IDEAL FOR APPLICATIONS THAT REQUIRE CORROSION RESISTANCE AT HIGH TEMPERATURES
- ▶ 25% HIGHER PRESSURE RATING THAN STANDARD CPVC @ 180°F (82°C)

Of course, a higher pressure-rated pipe doesn't mean much if the fitting in the system can't also take the pressure. But that's just one more way that **Corzan® HP** stands apart from the competition. We offer the industry's only pressure-rated schedule 40/80 CPVC fitting, which is key to our ability to provide an NSF-certified, fully pressure-rated system (pipe and fittings).

Only by using Corzan HP pipe in combination with Corzan HP fittings can this fully rated system be achieved.

- ▶ CORZAN® HP FITTINGS ARE THE ONLY COMMERCIALY AVAILABLE CPVC FITTINGS THAT CARRY A CERTIFIED PRESSURE RATING (NSF SE 8459).



The industry's only pressure-rated CPVC fitting.

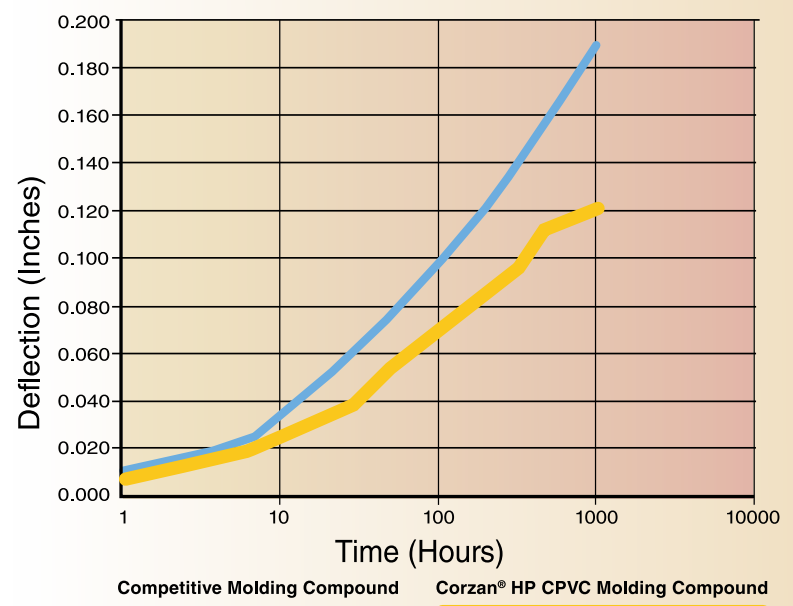
Fittings that take the pressure.

Corzan HP fitting compound has been pressure rated in accordance with ASTM D 2837 and PPI TR-3 having Hydrostatic Design Bases (HDB) of 4000 psi at 72°F and 1000 psi at 180°F as listed in PPI TR-4. When compared to generic CPVC materials, fittings made from Corzan HP CPVC demonstrate improved creep resistance and the ability to better withstand long-term, high-temperature hydrostatic pressure. Working under the same conditions, Corzan fittings can last four times longer than competitive fittings when pressure tested at 180°F (82°C) at 551 psi.



Elevated Temperature Creep Testing

(180°F @ 750 psi - Injection Molded Bars)

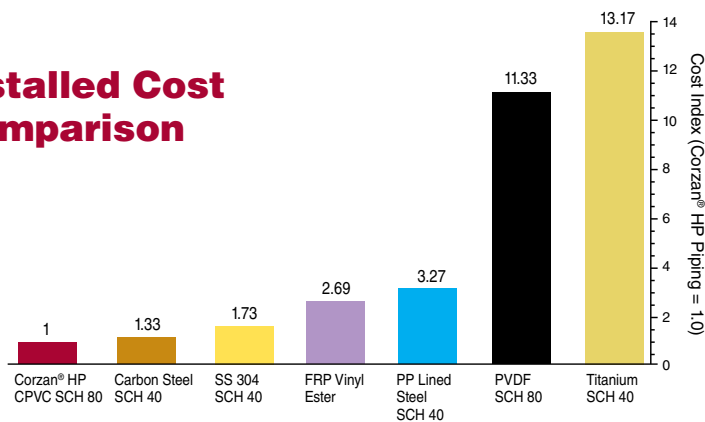


Bottom-Line Benefits

There are many reasons to choose a Corzan® HP piping system, starting with a lower total installed cost. Corzan HP systems offer a tremendous value in today's budget-conscious world. That's because the product offers an unmatched combination of benefits, including:

- ▶ LOWER, MORE STABLE MATERIAL COSTS THAN MANY ALTERNATIVES
- ▶ LONGER SERVICE LIFE DUE TO ITS CHEMICAL RESISTANCE
- ▶ LOWER MAINTENANCE COSTS SINCE THERE IS NO CORROSION
- ▶ REDUCED DOWNTIME
- ▶ FAST, EASY, LIGHTWEIGHT AND SAFE INSTALLATIONS

Installed Cost Comparison



It's also important to note that Corzan HP pipe and fittings offer these benefits without requiring additional system enhancements. Other conventional materials sometimes need to be altered to enhance their corrosion resistance and/or mechanical strength. For example, steel piping is often lined with non-metals, resins are reinforced with glass, or exotic metal alloys may be utilized in order to meet process design requirements. Such changes can significantly increase the installed cost of a project. But Corzan HP pipe and fittings outperform competitive materials without these costly enhancements.

CORZAN® HP
PIPE AND FITTINGS

Performance You Can Count On – Today and Tomorrow

For more than 50 years, pipe and fittings made from CPVC have allowed engineers to design equipment with a longer service life, fewer maintenance requirements, improved process utilization and greater cost efficiency when compared to conventional piping materials. Today, thanks to advanced technologies and enhancements, Corzan® HP piping compounds raise the bar for performance and reliability in industrial piping systems.

With Lubrizol, you get more than a superior performing product. We provide advanced research and development services, comprehensive testing facilities and unparalleled technical expertise. After all, we invented CPVC back in 1959, so no one understands the technology better. Our team is dedicated to providing engineered solutions to meet your specific application challenges.

CORZAN® HP

**From plumbing to siding to fire sprinkler systems and more...
All the pieces have now come together to solve many of today's
toughest building and industrial challenges.**

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PIPE AND FITTINGS

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