ATLANTA INDUSTRIES

TÜV SÜD ISO 9001

SCAN & VISIT OUR WEBSITE

Corzan®

MATERIAL & PIPING SOLUTIONS

THE RELIABLE PIPING SOLUTION FOR

INDUSTRIAL PROCESSING SYSTEMS

Ideal for

Chemical Processing • Water Treatment • Power Industry • Industrial Manufacturing • Semiconductor & Electronics • Mining Applications

Ver. 04 August 2022

Corzan®
MATERIAL & PIPING SOLUTIONS

CORZAN PRODUCT INTRODUCTION

Corzan® has since proven its value for more than 50 years in a variety of Industrial application in which high use temperature and excellent resistance to corrosive chemicals are desirable. Corzan, through years of use and extensive testing, that it possesses the chemical resistance, mechanical properties and strength necessary to endure a wide array of harsh industrial environments.

CORZAN® CPVC HAS ALL THE RIGHT QUALITIES

CUSTOMER BENEFITS

High Heat Distortion Temperature
Certified for use up to 200ºF (93.3ºC).

Inherent Chemical Resistance
Corrosion-free piping to maintain pressure ratings, flow rates and fluid purity, and to prevent costly repairs.

Fire-related Safety Advantages
Heat transfer coefficient is approximately 1/300th that of steel, and the material does not sustain burning and requires no flame to install.

Relatively Low Material Cost
Has successfully replaced and outlasted metals and other costly materials.

Simple & Superior Installation
Solvent welding fuses the piping & fitting at the molecular level, maintaining system performance.

Certified Pressure Rating
Pressure rated in accordance with ASTM D2837. Having a Hydrostatic Designs Basis (HDB) of 4000 psi at 72ºF (23ºC) and 1000 psi at 180ºF (82.2ºC)

PROVEN PERFORMANCE FOR MULTIPLE INDUSTRIES

CHEMICAL PROCESSING

Reliably transport aggressive chemicals at high temperature, under pressure, without corrosion concerns.

COMPATIBLE WITH

- Hydrochloric Acid
- Phosphoric Acid
- Sodium Chloride
- Sodium Hypochlorite
- Sodium Hydroxide (caustic soda)
- Sulfuric Acid

COMMON USES

- Production Facilities
- Blending Operations
- Reagent Processes
- Air Srubbing
- Wastewater Treatment & Demineralization Operations

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CHLOR ALKALI

Transport harsh chemicals through some of the most corrosive environments imaginable with optimal service life.

COMPATIBLE WITH

- Cell Liquor (Brine, Sodium Hydroxide)
- Concentrated Sodium Chloride (Brine)
- Demineralized/Deionized (DI) Water
- Hydrochloric Acid
- Sodium Hypochlorite
- Sodium Hydroxide (Caustic Soda)
- Sulfuric Acid
- Wet Chlorine Gas

COMMON USES

- Pipes
- Tanks
- Headers
- Manifolds
- Chlorine Drying Towers

MINERAL PROCESSING

Resist abrasion & withstand other demands of precious & raw material processing operations.

COMPATIBLE WITH

- Copper Sulfate
- Metabisulphite
- Sodium Cyanide
- Sodium Sulfate
- Sulfuric Acid
- Zinc Sulfate

COMMON USES

- Electrolysis Operations
- Electrowinning
- Electrorefining
- Acid Service Lines
- Tailings Lines
- Gas Vent Scrubbers
- Froth Flotation Operations
- Wastewater Treatment Plants

POWER GENERATION

Stand up long-term to the high pressures & corrosive chemicals commonly used by power plants.

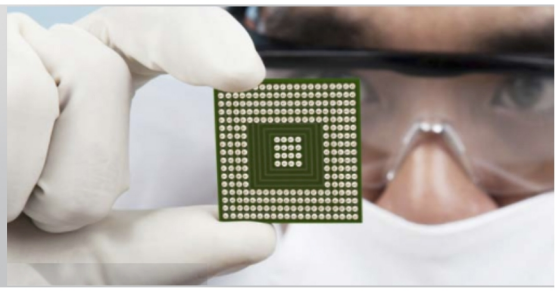
COMPATIBLE WITH

- Alum
- Caustic Soda
- Ferric Chloride
- Ferrous Chloride
- Hydrogen Sulfide
- Hypochloride
- Sodium Sulfite
- Sulfuric Acid

COMMON USES

- Underground Cooling Water Loops
- Cooling Tower Risers and Headers
- Demineralizers Systems for Creating Boiler Feed Water
- Condensate Return Water Apps.
- Flue Gas Desulfurization Systems
- Environmental Systems (for Coal Fired Steam Plats)

SEMICONDUCTORS



Meet the high purity standards for cleanrooms & eliminate corrosion concerns caused by aggresive chemicals.

COMPATIBLE WITH

- Ammonium Hydroxide
- Hydrochloric Acid
- Hydrofluoric Acid
- Nitric Acid
- Sodium Hydroxide
- Sulfuric Acid

COMMON USES

- Processing Operations
- Fluid Handling
- Exhaust Ventilation
- Wastewater Applications
- Lithographic Plate Etching

WASTEWATER TREATMEMT

Put an end to corrosion, even when transporting the most aggressive disinfection chemicals.

COMPATIBLE WITH

- Acids: Sulfuric, Nitric, Hydrocholric & Phosphorus
- Aggressive Saltwater
- Alum
- Alkaline Lime Slurry
- Disinfectants & Dechlorination Chemicals
- Ferrous Chloride & Ferric Chloride
- Hydrogen Sulfide
- Microorganisms in High Concentrations
- Sodium Hydroxide (Caustic Soda)
- Sodium Hypochlorite

COMMON USES

- Primary & Secondary Wastewater Treatment
- Advanced Water Treatment
- Biological Denitrification
- Double-Containment System
- Wastewater Odor Control
- Wet Air Scrubbers
- Metal Chelating Agents in a Liquid Redox Process
- Desalination Systems for the Reverse Osmosis Processing

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PHYSICAL PROPERTIES OF CORZAN CPVC

Property	Corzan Pipe	ASTM
Specific Gravity 1000 kg/m^3	1.52	D792
Modulus of Elasticity @ 73°, psi	4.23 x 10^5	D638
Ulitimate Tensile Strength, psi	7.960	D638
Comprehensive Strength, psi	10,100	D695
Poisson's Ratio	.35 - .38	-
Working Stress @ 73°F, psi	2,000	D1598
Hazen-Williams C Factor	150	-
Coefficient of Linear Expansion in./in./°F/in	3.8 x 10^{-5}	D696
Thermal Conductivity BTU/hr./ft.2/°F/in.	0.95	C177
Limiting Oxygen Index	60%	D2863
Electrical Conductivity	Non Conductor	-

Cell Classification for CPVC is defined by ASTM D1748 and certificated by NSF International. The cell classification for standard CPVC is 23447 while for High Impact Pipe compound it is 24448. Corzan is available sizes up to 8".

A Single Material For All Process Design Needs

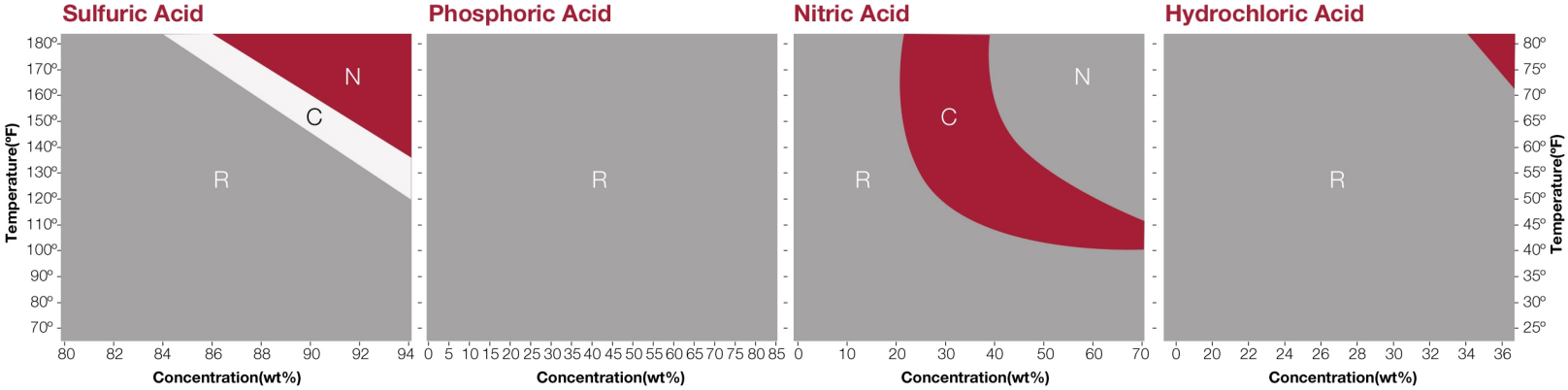
Corzan® is a member of the Corzan Industrial Systems family of CPVC pipe, fittings and process components that were incepted to simplify system design, maintenance & repair with one reliable material solution.

Piping system, pump/filtration systems or air pollution control systems are needed, Atlanta can provide a proven, corrosion-resistant solution for the entire process.

Cell Class - 24448
Higher Impact Strength
- Three times the impact strength of standard CPVC
- Pipe can be cut easier
- Fewer breaks & fractures
- Lower scrap rate

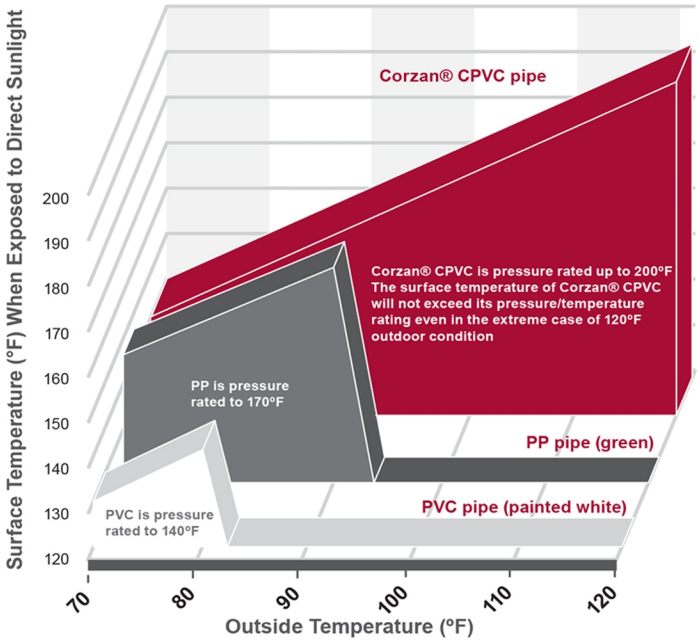
Cell Class - 24448
Higher Heat Distortion Tempeture
- Minimum HDT of 110°C for High Impact Pipe Compound vs. 100°C for standard CPVC
- High Impact CPVC pipe will keep its straight professional appearance where standard CPVC may sag or bend

CORZAN CPVC CHEMICAL RESISTANCE



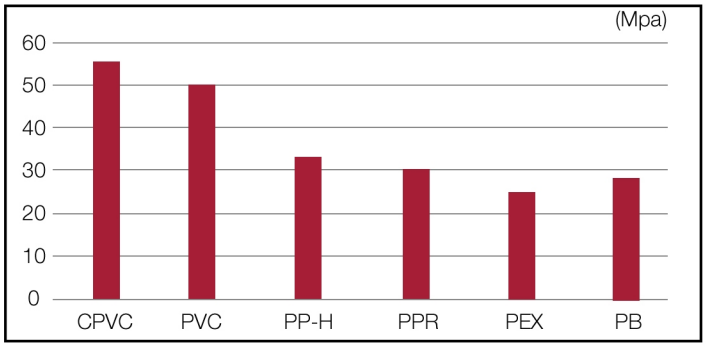
R = Recommended
C = Caution
N = Not Recommended

WEATHERABILITY



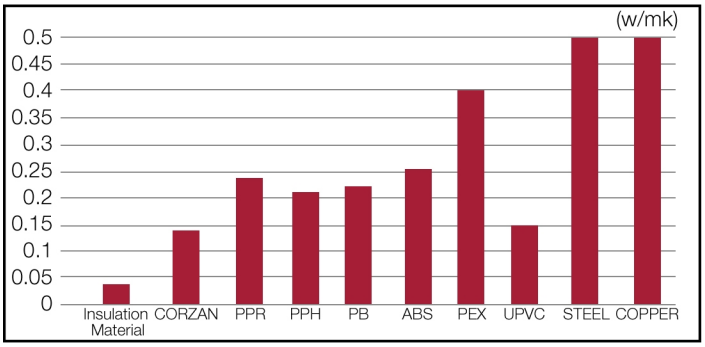
Over 50 years of experience with CPVC, including many long standing outdoor installations, demonstrates that Corzan® products will be able to withstand long-term exposure to the environment without significant adverse effects. In fact, Atlanta experience verifies that the pressure bearing capability of Corzan® Piping Systems is maintained after extended exposure. Depending on the specific installation, there has been some gradual reduction in impact properties with prolonged exposure.

TENACITY



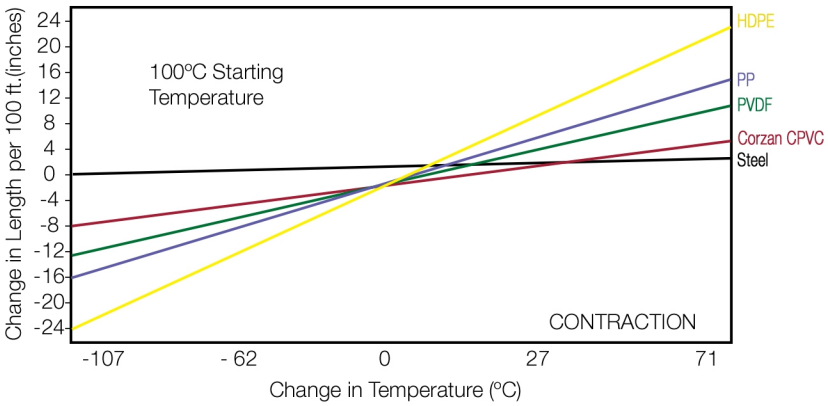
Corzan® CPVC has high tenacity compared to other thermolastic materials.

THERMAL CONDUCTIVITY



Corzan® CPVC has a low thermal conductivity

THERMAL EXPANSION



Corzan® Piping Systems are less prone to expansion from chemical media runs of varying temperature. This allows the product to be installed with fewer expansion loops and water support spacing.

ABRASION RESISTANCE

TABER ABRASION TESTER (Abrasion Ring CS-10, Load 1 kg)	
Nylon	5mg/1000 cycles
UHMW PE	5
PVDF	5-10
PVC (rigid)	12-20
PP	15-20
CPVC	20
CTFE	13
PS	40-50
Steel (304 SS)	50
ABS	60-80
PTEE	500-1000

Corzan® Piping Systems will usually outperform metal when transporting abrasive media & have been used successfully in many abrasive industrial applications. One widely referenced test method is the Taber Abrasion Test, in which the weight loss a material is measured after being exposed to an abrasive wheel for 100 cycles. While the Taber test cannot predict actual performance of a material to a given application, it does provide a relative measure to compare materials.

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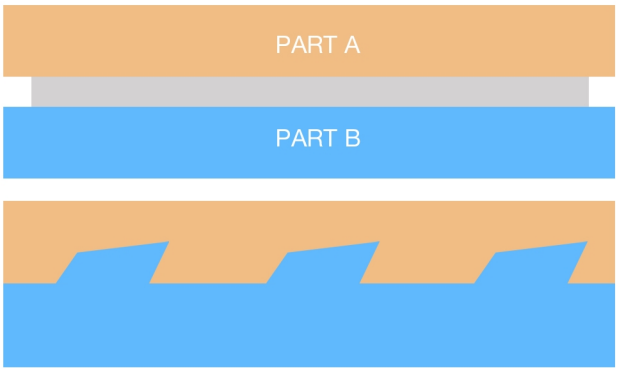
INSTALLATION SOLVENT



Joint Strength

Adhesion: Glues bond to part A on one side & to part B on the other side. The glue bond does not work properly when there is space between part A & part B.

Solvent Welding: Some components in a solvent cement penetrate, melt and/or swell the material and then evaporate, which allows the substrates to regain crystallinity and with it all of their physical property. 80% of the bond strength in a solvent weld comes by fusing part A into part B.

PREPARATION

Burrs and filings can prevent proper contact between the pipe and fitting and may put undue stress on the pipe and fitting assembly. Burrs and filings must be removed from the outside and inside of the pipe. A chamfering tool or file is suitable for this purpose.

A slight bevel should be placed at the end of the pipe to ease entry of the pipe into the socket and minimize the chances of wiping solvent cement from the fitting. For pipe sizes 2 in. and larger a 10° to 15° chamfer of 3/32 in. is recommended.

Loose soil and moisture should be wiped from the fitting socket and pipe end with a clean, dry rag. Moisture can slow the curing, and at this stage of assembly excessive water can reduce the joint strength.

The dry fit of the pipe and fitting should be checked. The pipe should enter the fitting socket easily 1/3 to 2/3 of the depth. If the pipe bottoms in the fitting with little interference, extra solvent cement should be used to prepare the joint.

SOLVENT WELDING STEPS

Apply primer to OD of pipe

Apply primer to ID of fitting

Apply cement to OD of pipe

Apply cement to ID of pipe

1. Insert pipe into fitting
2. Quarter turn as pipe is pushed into fitting

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PRODUCT RANGE

CPVC Pipe SCH40

Nominal Size		OD	Wall Thickness	Length
in.	mm.	mm.	SCH40	M
1/2	15	21.34	2.77	4
3/4	20	26.67	2.87	4
1	25	33.40	3.38	4
1-1/4	32	42.16	3.56	4
1-1/2	40	48.26	3.68	4
2	50	60.33	3.91	4
2-1/2	65	73.03	5.16	4
3	80	88.90	5.49	4
4	100	114.30	6.02	4
6	150	168.28	7.11	4
8	200	219.08	8.18	4

CPVC Pipe SCH80

Nominal Size		OD	Wall Thickness	Length
in.	mm.	mm.	SCH80	M
1/2	15	21.34	3.73	4
3/4	20	26.67	3.91	4
1	25	33.40	4.55	4
1-1/4	32	42.16	4.85	4
1-1/2	40	48.26	5.08	4
2	50	60.33	5.54	4
2-1/2	65	73.03	7.01	4
3	80	88.90	7.62	4
4	100	114.30	8.56	4
6	150	168.28	10.97	4
8	200	219.08	12.70	4

Standard Fittings

45° Elbow

Nominal Size	
in	mm
1/2	15
3/4	20
1	25
1-1/4	32
1-1/2	40
2	50
2-1/2	65
3	80
4	100
6	150
8	200

90° Elbow

Nominal Size	
in	mm
1/2	15
3/4	20
1	25
1-1/4	32
1-1/2	40
2	50
2-1/2	65
3	80
4	100
6	150
8	200

Coupling

Nominal Size	
in	mm
1/2	15
3/4	20
1	25
1-1/4	32
1-1/2	40
2	50
2-1/2	65
3	80
4	100
6	150

Tee

Nominal Size	
in	mm
1/2	15
3/4	20
1	25
1-1/4	32
1-1/2	40
2	50
2-1/2	65
3	80
4	100
6	150

Tee Reducer

Nominal Size	
in	mm
1 x 1-1/4	25 x 32
1 x 1-1/2	25 x 40
2 x 1	50 x 25
2 x 1-1/4	50 x 32
2-1/2 x 1-1/4	65 x 32
2-1/2 x 1-1/2	65 x 40
3 x 1-1/2	80 x 40
3 x 2	80 x 50
4 x 2-1/2	100 x 65

Coupling Reducer

Nominal Size	
in	mm
3/4 x 1/2	20 x 15
1 x 1/2	25 x 15
1 x 3/4	25 x 20
1-1/4 x 1	32 x 25
1-1/2 x 1-1/4	40 x 32
2 x 1-1/2	50 x 40
2-1/2 x 2	65 x 50
3 x 2	80 x 50
3 x 2-1/2	80 x 65
4 x 3	100 x 80

End Cap	Nominal Size	
	in	mm
	1/2	15
	3/4	20
	1	25
	1-1/4	32
	1-1/2	40
	2	50
	2-1/2	65
	3	80
	4	100
	6	150

Beamjoint	Nominal Size	
	in	mm
	3/4 x 1/2	20 x 15
	1 x 3/4	25 x 20
	1-1/4 x 1	32 x 25
	1-1/2 x 1-1/4	40 x 32
	2 x 1-1/2	50 x 40
	2-1/2 x 2	65 x 50
	3 x 2-1/2	80 x 65
	4 x 3	100 x 80

Flange	Nominal Size	
	in	mm
	1/2	15
	3/4	20
	1	25
	1-1/4	32
	1-1/2	40
	2	50
	2-1/2	65
	3	80
	4	100
	6	150
	8	200

Threaded Fittings

Female Threaded Adapter	Nominal Size	
	in	mm
	1/2	15
	3/4	20
	1	25
	1-1/4	32
	1-1/2	40
	2	50

Male Threaded Adapter	Nominal Size	
	in	mm
	1/2	15
	3/4	20
	1	25
	1-1/4	32
	1-1/2	40
	2	50

Union	Nominal Size	
	in	mm
	1/2	15
	3/4	20
	1	25
	1-1/4	32
	1-1/2	40
	2	50

Accessories

WELD-ON 714™ CPVC - Orange	Size (pint)
	1
	2

WELD-ON P-68™ Primer - Purple	Size (pint)
	1
	2

PROJECTS

Chemical Processing
Project Name : CPF Dualam
Application: Wet Chlorinated Gas

Industrial Water Treatment
Project Name : Delta Airlines
Application: Waste Water Treatment

Power Generation
Project Name : OMPL Power Plant
Application: Waste Water Treatment

ATLANTA INDUSTRIES

35th Atlanta Centre, No. 31 Annapolis St. Greenhills, San Juan City
Tel. nos.: 8723.0781 to 96 | Fax. No.: 8744-4703 / 8584-2997
Website: www.atlanta.ph **Email Sales:** marketing@atlanta.ph
Like Us on Facebook: atlantaindustriesincorporated
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