

# XIRTEC PVC & CORZAN CPVC

PVC Sch 40 – 1/2" - 24"  
PVC Sch 80 – 1/4" - 24"  
CPVC Sch 40 – 1/2" - 16"  
CPVC Sch 80 – 1/2" - 16"



## THE IPEX SYSTEM ADVANTAGE

IPEX vinyl process piping systems; a complete line of pipe, fittings and valves to meet all your process system requirements.

IPEX developed the Xirtec®140 (PVC) and Corzan® (CPVC) systems to meet industry demands for a complete Pipe, Valves and Fittings (PVF) package that is designed, produced and backed by a single manufacturer. These systems are engineered and manufactured to IPEX's strict quality, performance and dimensional standards, and therefore eliminate the problems inherent in purchasing and installing piping system components manufactured by several different companies.

IPEX high-performance vinyl systems are designed to meet the temperature, pressure and size requirements of piping systems used in chemical processes and other industrial applications. They feature outstanding resistance to photodegradation, creep stress and immunity to oxidation, and are exceptionally suited for use with a wide range of acids, alcohols, salts and halogens. The perfect extended service, low maintenance alternative to common and exotic metal systems.

Xirtec140 pipe and fittings and Corzan pipe are available in Schedule 40 and 80, IPS. Corzan fittings are available in Schedule 80.

## APPLICATIONS

- Plant chemical distribution lines
- Water and wastewater
- Acid systems for refineries, pickling lines and plating shops
- Chlorine injection, chlorine dioxide and chloralkali plant piping
- Steel wire plants
- Battery manufacturing
- Bleach lines in textile and paper mills
- Alum and caustic handling systems
- Circuit board manufacturing
- Semiconductor
- Pharmaceutical
- Cooling water and cooling tower systems
- Tailing and slurry lines
- Washwater recovery systems
- Plant water supply
- Brine and seawater systems
- Fish farming
- Waterworks
- Aquariums and swimming pools
- Irrigation systems in golf courses, greenhouses, etc.

## STANDARDS

XIRTEC140



CORZAN



## ADVANTAGES

- 1 Lower Installation Costs, Easy Handling**

In addition to a lower material cost, Xirtec & Corzan pipe can significantly reduce labor and transportation costs on a typical installation. The reason? They are lightweight, easily handled, stored, cut and joined.
- 2 Extended Life**

Xirtec PVC and Corzan CPVC provide years of maintenance free service. Our materials will not rust, pit, scale or corrode on either interior or exterior surfaces. Thermoplastic piping systems in a variety of demanding industrial applications have operated successfully for over 45 years.
- 3 Superior Underground Performance**

Xirtec and Corzan CPVC are immune to damage from naturally corrosive soil conditions as well as electrochemical and galvanic corrosion. This is particularly advantageous in underground installations where galvanic reaction often causes damage to metal piping products.
- 4 Exceptional Chemical Resistance**

The IPEX vinyl systems, including pipe, valves and fittings, provide outstanding resistance to a wide range of chemicals such as most acids, alcohols, alkalies, salt solutions, halogens and more.
- 5 Improved Flow**

Xirtec and Corzan have a substantially lower Roughness Factor than metal and other materials, and since they do not rust, pit, scale or corrode, the interior walls remain smooth in virtually any service.
- 6 Potable Water Approved**

Xirtec140 polyvinyl chloride (PVC) and Corzan chlorinated polyvinyl chloride (CPVC) are suitable for use with potable water as listed with the National Sanitation Foundation (NSF) and CSA International.
- 7 Exceptional Temperature Range**

IPEX vinyl systems are designed to meet a broad range of service temperatures. Xirtec has a recommended maximum service temperature of 140°F (60°C) under pressure. Corzan has a maximum service temperature of 200°F under pressure with occasional exposure to boiling water (212°F / 100°C) in drainage.
- 8 Lower Thermal Conductivity**

With a low thermal conductivity factor, IPEX vinyl systems have less heat loss or gain, thus sustaining service temperature more efficiently than metal piping. As a result, pipe insulation is often not required.
- 9 Environmentally Responsible**

With energy conservation a prime concern, you can rely on the fact that IPEX's manufacturing process for Xirtec and Corzan piping materials requires less than half the energy needed to produce the equivalent size of carbon steel or steel alloy materials.



### **i DID YOU KNOW?**

One of the outstanding characteristics of PVC is its resistance to ignition. This is demonstrated by its flash point of 730°F, compared to 400°F for wood chips.

CPVC offers an even greater fire safety profile than PVC. CPVC's ignition resistance is demonstrated by its flash point of 900°F, with a low flame spread as well.

# HIGH PRESSURE CLEAR-GUARD CLEAR PVC PIPE

1/2" - 8"

## Clear-Guard™

IPEX Clear-Guard™ Clear PVC pipe provides a cost-effective multipurpose solution for many different piping applications. The benefits of rigid Xirtec®140 PVC piping are well documented including light weight, flexibility, durability and exceptional corrosion resistance. These benefits with the addition of clarity, are now available in our Clear-Guard Clear PVC pipe product. Our clarity provides 360° visibility for several applications including dual-containment, clean room and site glass applications.

With IPEX's new high pressure clear PVC pipe you can specify Schedule 40 clear pipe for applications where previously only Schedule 80 clear pipe would suffice. Our high pressure formulation, with a long-term hydrostatic design basis of 3,150 psi allows for better clarity and more versatility for various applications.

### ADVANTAGES

- 1 Sizes range from 1/2" to 8" Schedule 40 pipe
- 2 Standard 10 foot lengths
- 3 20 foot lengths available by special order
- 4 Certified to NSF-61
- 5 3,150 psi HDB – tested in accordance with ASTM D2837
- 6 Pressure and Vacuum service

### APPLICATIONS

- Clear-Guard Dual-Containment Systems
- Dual-Containment for High Purity Tubing
- Leak Detection Systems
- Agricultural & Aquacultural Applications
- Chemical Processing/Blending
- Healthcare/Hospital Use
- Laboratory Applications
- Environmental Applications
- Sight Gauge Assemblies
- Displays/Exhibits
- Food & Beverage Processing
- and more ...

### STANDARDS



4

CLEAR-GUARD CLEAR PVC PIPE

Clear-Guard™ Clear PVC pipe is designed for indoor applications where there is no significant exposure to ultraviolet sources or to direct sunlight.

## COMPATIBILITY & PRESSURE RATING

IPEX Clear-Guard Clear PVC pipe is produced from a rigid, virgin Polyvinyl Chloride (PVC) compound with a Cell Classification of 15334 per ASTM D1784. This material also enables Clear-Guard Clear PVC piping to carry a maximum service temperature of 140°F when appropriate temperature/pressure de-rating factors are applied.

As with our Xirtec140 PVC piping system our pressure ratings are dependent on the pipe diameter and the operating temperature of the system. As temperatures increase, the pressure rating of the system decreases. Refer to the table for de-rating factors on our Clear-Guard pressure ratings.

This material is compatible with Xirtec140 PVC pipe, fittings and valves, and can be joined into existing PVC systems using the appropriate solvent cement joining process.

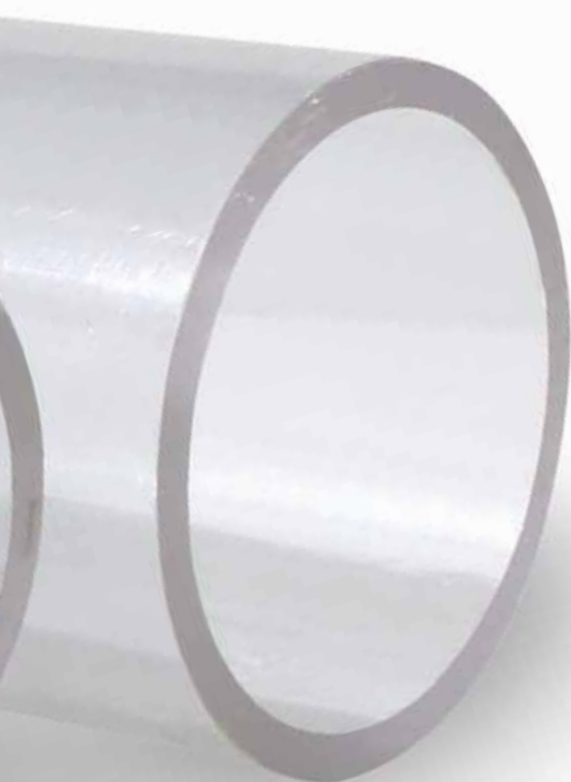
## JOINING TECHNIQUES

IPEX Clear-Guard Clear PVC pipe is easily joined by the solvent cementing process, providing a quick, strong, leak-tight seal for pressure applications.

To maintain the system's clarity, IPEX recommends the use of a clear, medium-bodied, fast-setting cement in conjunction with a clear primer for optimum joint integrity. As an added advantage due to the product's transparency, joint integrity is readily identified during the solvent cement joining process.

Details on proper solvent cementing techniques are available and must be reviewed for proper assembly and joint integrity.

Operating Temperature (°F)	Operating Pressure De-rating Factor
73	1.00
80	0.88
90	0.75
100	0.62
110	0.51
120	0.40
130	0.31
140	0.22



## **i** DID YOU KNOW?

Clear-Guard™ has a higher Pressure Rating when compared to the competition clear product

IPEX Clear-Guard PVC 3150 = HDB* @ 73°F Pressure Rating			
Size	Product Code	IPEX Sch 40 clear	Competition Sch 80 clear
1/2"	22003	480	400
3/4"	22009	390	333
1"	22014	360	286
1-1/4"	22026	290	250
1-1/2"	22031	260	222
2"	22036	220	200
3"	22045	210	182
4"	22053	180	167
6"	22057	140	133
8"	22198	120	125

\* HDB = Hydrostatic Design Basis – the established stress value for a compound at a specific temperature

## CORZAN® HP

The IPEX CORZAN® HP CPVC system has been specially developed with greater pressure and high temperature performance. IPEX CORZAN HP has a 25% higher pressure rating than the equivalent sized CPVC at 180°F. Both schedule 80 pipe and fittings are certified to NSF SE 8459. This specification requires CPVC pipe to meet or exceed a 24448 cell class and have an HDB of 4000psi at 72°F and 1250psi at 180°F. It also requires the CPVC fitting compound to have an HDB of 4000psi at 72°F and 1000psi at 180°F. This makes IPEX CORZAN HP the only CPVC system with pressure rated pipe AND fittings.

### ADVANTAGES

- 1 IPEX Corzan HP** pipe possesses a 24448 cell class. That means that the impact strength and heat deflection temperature of our HP CPVC is superior compared to generic 23447 CPVC compounds.
- 2 IPEX Corzan HP** is approved by the US Coast Guard for use on US flagged ships. (Coast Guard Approval Number: 164.141/B35/0)
- 3 IPEX Corzan HP** utilizes the same solvent cement installation method as CORZAN CPVC and can be joined using CORZAN grade solvent cements and primers that meet or exceed the requirements of ASTM F656. Expansion coefficients, support spacing, and chemical resistance remain identical to IPEX CORZAN CPVC eliminating the for additional installer training.

### APPLICATIONS

- Chemical processing
- Semiconductor and electronics
- Water treatment
- Industrial manufacturing
- Mining
- Power generation

### MARINE & OFFSHORE APPLICATIONS


- Potable water
- Deck wash system – supply and drainage
- Desalinization and chemical waste treatment
- Black Water
- Brine
- Ballast treatment piping

### STANDARDS



IPEX CORZAN HP meets or exceeds the requirements of:

- ASTM F441 and NSF SE 8459 for Sch80 pipe
- ASTM F439 and NSF SE 8459 for Sch80 fittings
- NSF 61

A large, dark grey IPEX CORZAN HP pipe and fitting assembly is shown. The pipe is vertical on the right side, with the text "IPEX CORZAN HP" printed vertically on it. A horizontal pipe connects to it from the left, with an elbow fitting. A small label on the fitting reads "IPEX CORZAN HP NSF SE 849".

IPEX CORZAN HP  
NSF SE 849

## CORZAN VS CORZAN HP

### SCHEDULE 80 PIPE PRESSURE RATINGS

Operating Temp. Pipe / Fitting Size	70°F		120°F		180°F	
	Corzan psi	Corzan HP psi	Corzan psi	Corzan HP psi	Corzan psi	Corzan HP psi
1/2"	850	850	553	595	213	264
3/4"	690	690	449	483	173	214
1"	630	630	410	441	158	195
1-1/4"	520	520	338	364	130	161
1-1/2"	470	470	306	329	118	146
2"	400	400	260	280	100	124
2-1/2"	420	420	273	294	105	130
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



### DID YOU KNOW?

Corzan® HP pipe and fittings is available up to 8" diameter, and boasts a 25 percent higher pressure rating than standard CPVC at 180°F (82°C). It is also the only fully pressure-rated schedule 40/80 piping system on the market today.



# PRODUCT SELECTION CHART

## PVC PIPE PRESSURE RATINGS

Sizes		Schedule 40 PVC			Schedule 80 PVC		
Diameter (in.)	O.D. (in.)	Wall Thickness (in.)	I.D. (in.)	*Max. Pressure 73°F (psi)	Wall Thickness (in.)	I.D. (in.)	*Max. Pressure 73°F (psi)
1/4	.540	–	–	–	.119	.302	1,130
3/8	.675	–	–	–	.126	.423	920
1/2	.840	.109	.602	600	.147	.526	850
3/4	1.050	.113	.804	480	.154	.722	690
1	1.315	.133	1.029	450	.179	.936	630
1-1/4	1.660	.141	1.360	370	.191	1.255	520
1-1/2	1.900	.145	1.590	330	.200	1.476	470
2	2.375	.154	2.047	280	.218	1.913	400
2-1/2	2.875	.203	2.445	300	.276	2.290	420
3	3.500	.216	3.042	260	.300	2.864	370
4	4.500	.237	3.998	220	.337	3.786	320
6	6.625	.280	6.031	180	.432	5.709	280
8	8.625	.322	7.941	160	.500	7.565	250
10	10.750	.365	9.976	140	.593	9.493	230
12	12.750	.406	11.888	130	.687	11.294	230
14	14.000	.438	13.072	130	.750	12.412	220
16	16.000	.500	14.936	130	.843	14.224	220
18	18.000	.562	16.809	130	.937	16.014	220
20	20.000	.593	18.743	120	1.031	17.814	220
24	24.000	.687	22.544	120	1.218	21.418	210

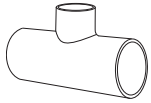
## CPVC PIPE PRESSURE RATINGS

Sizes		Schedule 40 CPVC			Schedule 80 CPVC				Schedule 80 HP CPVC			
Diameter (in.)	O.D. (in.)	Wall Thickness (in.)	I.D. (in.)	*Max. Pressure 73°F (psi)	Wall Thickness (in.)	I.D. (in.)	*Max. Pressure 73°F (psi)	*Max. Pressure 180°F (psi)	Wall Thickness (in.)	I.D. (in.)	*Max. Pressure 73°F (psi)	*Max. Pressure 180°F (psi)
1/2	.840	.109	.602	600	.147	.526	850	213	.147	.526	850	264
3/4	1.050	.113	.804	480	.154	.722	690	173	.154	.722	690	214
1	1.315	.133	1.029	450	.179	.936	630	158	.179	.936	630	195
1-1/4	1.660	.141	1.360	370	.191	1.255	520	130	.191	1.255	520	161
1-1/2	1.900	.145	1.590	330	.200	1.476	470	118	.200	1.476	470	146
2	2.375	.154	2.047	280	.218	1.913	400	100	.218	1.913	400	124
2-1/2	2.875	.203	2.445	300	.276	2.290	420	105	.276	2.290	420	130
3	3.500	.216	3.042	260	.300	2.864	370	93	.300	2.864	370	115
4	4.500	.237	3.998	220	.337	3.786	320	80	.337	3.786	320	100
6	6.625	.280	6.031	180	.432	5.709	280	70	.430	5.709	280	87
8	8.625	.322	7.941	160	.500	7.565	250	63	.500	7.565	250	78
10	10.750	.365	9.976	140	.593	9.493	230	58	–	–	–	–
12	12.750	.406	11.888	130	.687	11.294	230	58	–	–	–	–
14	14.000	.438	13.072	130	.750	12.412	220	55	–	–	–	–
16	16.000	.500	14.936	130	.843	14.224	220	55	–	–	–	–

\* Maximum pressure @

Dimension inches	Sch 40 WHITE Product Code	Universal Number
------------------	---------------------------	------------------

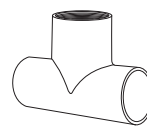
**Fabricated Reducing Tee** Soc x Soc x Soc



10 x 10 x 4	125159	401624F
10 x 10 x 6	125166	401626F
10 x 10 x 8	125171	401628F
12 x 12 x 4	125178	401664F
12 x 12 x 6	125184	401666F
12 x 12 x 8	125189	401668F
12 x 12 x 10	125194	401670F
14 x 14 x 2	125199	401691F
14 x 14 x 3	125200	401693F
14 x 14 x 4	125201	401694F
14 x 14 x 6	125206	401696F
14 x 14 x 8	125211	401698F
14 x 14 x 10	125216	401700F
14 x 14 x 12	125221	401702F
16 x 16 x 4	125227	401754F
16 x 16 x 6	125232	401756F
16 x 16 x 8	125237	401758F
16 x 16 x 10	125242	401760F
16 x 16 x 12	125247	401762F
16 x 16 x 14	125252	401764F
18 x 18 x 4	125257	401784F
18 x 18 x 6	125258	401786F
18 x 18 x 8	125259	401788F
18 x 18 x 10	125260	401790F
18 x 18 x 12	125261	401792F
18 x 18 x 14	125262	401794F
18 x 18 x 16	125263	401796F
20 x 20 x 4	125264	401814F
20 x 20 x 6	125265	401816F
20 x 20 x 8	125266	401818F
20 x 20 x 10	125267	401820F
20 x 20 x 12	125268	401822F
20 x 20 x 14	125269	401824F
20 x 20 x 16	125270	401826F
20 x 20 x 18	125271	401828F
24 x 24 x 4	125272	401904F
24 x 24 x 6	125273	401906F
24 x 24 x 8	125274	401908F
24 x 24 x 10	125275	401910F
24 x 24 x 12	125276	401912F
24 x 24 x 14	125277	401914F
24 x 24 x 16	125278	401916F
24 x 24 x 18	125279	401918F
24 x 24 x 20	125280	401920F

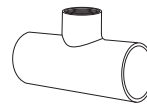
Dimension inches	Sch 40 WHITE Product Code	Universal Number
------------------	---------------------------	------------------

**Tee** Soc x Soc x Fpt



1/2	035851	402005
3/4	035852	402007
1	035853	402010
1 1/4	035854	402012
1 1/2	035855	402015
2	035856	402020
2 1/2	035857	402025
3	035858	402030
4	035859	402040

**Reducing Tee** Soc x Soc x Fpt



1/2 x 1/2 x 3/4	035860	402074
3/4 x 1/2 x 1/2	035862	402094
3/4 x 1/2 x 3/4	235019	402095
3/4 x 3/4 x 1/2	035863	402101
1 x 3/4 x 1/2	035867	402124
1 x 1 x 1/2	035865	402130
1 x 1 x 3/4	035866	402131
1 1/4 x 1 x 1/2	035868	402156
1 1/4 x 1 x 1	235020	402158
1 1/4 x 1 1/4 x 1/2	035869	402166
1 1/4 x 1 1/4 x 3/4	035870	402167
1 1/4 x 1 1/4 x 1	035871	402168
1 1/2 x 1 1/4 x 1/2	235021	402199
1 1/2 x 1 1/4 x 3/4	035872	402201
1 1/2 x 1 1/4 x 1	235022	402202
1 1/2 x 1 1/2 x 1/2	035873	402209
1 1/2 x 1 1/2 x 3/4	035874	402210
1 1/2 x 1 1/2 x 1	035875	402211
1 1/2 x 1 1/2 x 1 1/4	035876	402212
2 x 1 1/2 x 3/4	235023	402238
2 x 1 1/2 x 1	235024	402239
2 x 2 x 1/2	035877	402247
2 x 2 x 3/4	035878	402248
2 x 2 x 1	035879	402249
2 x 2 x 1 1/4	035880	402250
2 x 2 x 1 1/2	035881	402251
2 1/2 x 2 1/2 x 1/2	235025	402287
2 1/2 x 2 1/2 x 3/4	035592	402288
2 1/2 x 2 1/2 x 1	035882	402289
2 1/2 x 2 1/2 x 1 1/4	035883	402290
2 1/2 x 2 1/2 x 1 1/2	035884	402291
3 x 3 x 1/2	035885	402333
3 x 3 x 3/4	035886	402334
3 x 3 x 1	035887	402335
3 x 3 x 1 1/4	035888	402336
3 x 3 x 1 1/2	035889	402337
3 x 3 x 2	035890	402338
4 x 4 x 1	035891	402417
4 x 4 x 1 1/2	035893	402419
4 x 4 x 2	035894	402420
4 x 4 x 3	035895	402422
5 x 5 x 4	235026	402490
6 x 6 x 2	035896	402528
6 x 6 x 3	235027	402530
6 x 6 x 4	035897	402532
8 x 8 x 3	235028	402580
8 x 8 x 4	035898	402582