

INDUSTRIAL EASY SPEC

PRODUCT SIZE RANGE STANDARDS * APPLICATIONS

PROCESS PIPING SYSTEMS		* Consult IPEX literature for individual product listings	
Xirtec®140 PVC Schedule 40 & 80	1/4" - 24"	   	Designed to meet the temperature, pressure and flow requirements of piping systems used in chemical processes, and other industrial applications. Applications include: Plant chemical distribution lines, water and waste water, acid systems for refineries, pickling lines and plating shops, chlorine injections, chlorine dioxide and chloralkali plant piping, steel wire plant, irrigation systems, pharmaceutical, and waterworks etc.
Corzan® CPVC Schedule 40 & 80	1/2" - 16"	    	Chemical distribution lines, water and waste water, acid systems for refineries, pickling lines and plating shops, chlorine injections, chlorine dioxide and chloralkali plant piping, steel wire plant, irrigation systems, pharmaceutical, and waterworks etc.
Clear-Guard™ Clear PVC Schedule 40	1/2" - 8"	  	Clear-Guard double containment for high purity piping, leak detection, agricultural & aquacultural, chemical processing/ blending, healthcare/hospital use, laboratories, environmental, sight gauge assemblies, display/exhibits, and food and beverage processing.
Corzan® HP CPVC Schedule 80	1/2" - 8"	  	Chemical processing, semiconductor and electronics, water treatment, industrial manufacturing, mining, and power generation. Potable water, deck wash system, desalinization and chemical waste, black water, and brine ballast treatment.
Enpure™ High Purity PP Schedule 40 & 80	1/2" - 4"	 	Food processing, hospitals, laboratories, universities, biotechnology, research facilities, chemical manufacturing, photographic chemical processing, effluent treatment, water treatments, and pharmaceutical manufacturing.
Duraplus™ ABS Industrial	1/2" - 12"	 	Chilled water/HVAC, Off shore applications, Mining and Secondary loop refrigeration.
DOUBLE CONTAINMENT SYSTEMS			
Guardian™ Vinyl PVC & CPVC	PVC: Carrier 1/2" - 12" Containment 2"-18" CPVC: Carrier 1/2" - 12" Containment 2"-18"		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, alum and caustic handling systems, semiconductor, overhead piping for personnel/ property/equipment protection, and hazardous waste systems. Xirtec PVC and Corzan CPVC are the chosen materials for the Guardian systems.
Drain-Guard™ PVC DWV	Carrier: 1-1/2" - 12" Containment 4" - 16"		Healthcare/Hospital Use, laboratory applications, high-tech and data storage environments (network & server rooms etc.), museums and libraries, historical sites, theaters, restaurants (public areas), and residential buildings. Xirtec is the chosen material for the Drain-Guard system.
Clear-Guard™ PVC	PVC Sch 40 Carrier: 1/2" - 4" Containment 2" - 8"		Plant chemical distribution lines, pharmaceutical, semiconductor, water and wastewater, and overhead piping for personnel/ property/equipment protection. Each containment piping system shall consist of Xirtec PVC or Corzan CPVC primary piping system supported within a Clear-Guard Schedule 40 clear PVC secondary containment housing.
CustomGuard® (Dissimilar Materials)	FRP/Metals/Dissimilar: Carrier 1/2" - 20" Containment 2" - 26"		Plant chemical distribution lines, water and wastewater, acid systems for refineries, pickling lines and plating shops, battery manufacturing, alum and caustic handling systems, pharmaceutical, generator back-up, semiconductor, and hazardous waste systems. Custom-designed and fabricated double containment systems including dissimilar material.
Encase™ Acid Waste PP	PP: Carrier 1-1/2" - 8" Containment 4" - 12"		Corrosive chemical waste for university laboratories, schools, hospitals and industrial plants, and pharmaceuticals facilities.
Centra-Guard™ Low Point Leak Detection Monitoring System			Above-ground suspended pipeline applications with sensors housed in a saddle type clamp, underground pipeline systems with drip leg assembly.
IPEX PAL-AT Cable Leak Detection Monitoring System	NOT available in Canada		Ideal for buried double containment piping applications that require exact leak location.

PHYSICAL PROPERTIES

PVC (POLYVINYL CHLORIDE) CPVC (CHLORINATED POLYVINYL CHLORIDE)

PROPERTIES	MATERIALS				STANDARDS
	PVC	CPVC (STANDARD)	CORZAN HP (HIGH PERFORMANCE)	CPVC (HIGH IMPACT)	
Cell classification	12454	23447		24448	ASTM D1784
Specific gravity	1.42	1.50		1.51	ASTM D792
Tensile strength, psi at 73°F	7,000	7,500		7,320	ASTM D638
Modulus of elasticity tensile, psi at 73°F	400,000	380,000		423,000	ASTM D638
Flexural strength, psi	14,500	11,400		13,200	ASTM D790
Izod impact, ft.lbs./in. at 73°F, notched	0.65	2.0		10.0	ASTM D256
Compressive strength, psi	9,000	10,100		10,100	ASTM D695
Poisson's ratio	0.38	0.33		0.33	
Working stress, psi at 73°F	2,000	2,000		2,000	
Coefficient of thermal expansion in./in./°F (x 10 ⁻⁵)	3.0	3.8		3.4	ASTM D696
Linear expansion, in./10°F per 100' of pipe	0.36	0.44 - 0.46		0.41	
Maximum operating temperature under pressure	140°F (60°C)	200°F (93°C)		200°F (93°C)	
Deflection temperature under load, °F at 66 psi	173	n/a		n/a	ASTM D648
Deflection temperature under load, °F at 264 psi	160	212		239	ASTM D648
Thermal conductivity, BTU.in./hr.ft².°F	1.2	0.95		0.95	ASTM C177
Burning rate	Self extinguish	Self extinguish		Self extinguish	ASTM D635
Burning class	V-0	V-0		V-0	UL-94
Flash ignition, °F	730	900		900	
Limited oxygen index (%)	43	60		60	ASTM D2863-70
Water absorption, %, (24 hrs. at 73°F)	0.05	0.03		0.03	ASTM D570

* The properties listed in this table represent general material properties and should be used as a guideline only.

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"

Xirtec[®]140 CORZAN[®]

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



ASTM D1785



CSA B137.3



pw

CORZAN



ASTM F441



pw



CAN/ULC-S102.2

Caution: Do not use or test PVC or CPVC with compressed air or other gases including air-over-water boosters.

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, alkalis, 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.



DID YOU KNOW?

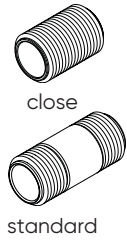
One of the outstanding characteristics of PVC is its resistance to ignition. This is demonstrated by its flash point of 730°F, compared to 400°F for wood chips.

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.

XIRTEC 140 PVC SCH. 80

Dimension inches	PVC Sch 80 Product Code	Universal Number
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Nipples



1/4" diameter

7/8 close	036434	880005
1-1/2	036445	880015
2	036456	880020
2-1/2	036457	880025
3	036458	880030
3 1/2	036459	880035
4	036460	880040
4-1/2	036461	880045
5	036462	880050
6	036463	880060
8	036464	880080
10	236012	880100
12	236013	880120

3/8" diameter

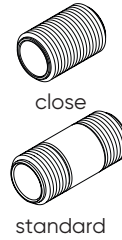
1 close	036435	881005
1-1/2	036446	881015
2	036466	881020
2-1/2	036467	881025
3	036468	881030
3-1/2	036469	881035
4	036470	881040
4-1/2	036471	881045
5	036472	881050
6	036473	881060
8	036474	881080

1/2" diameter

1-1/8 close	036436	882005
1-1/2	036447	882015
2	036475	882020
2-1/2	036476	882025
3	036477	882030
3-1/2	036478	882035
4	036479	882040
4-1/2	036480	882045
5	036481	882050
5-1/2	036482	882055
6	036483	882060
8	036484	882080
10	036485	882100
12	036486	882120

Dimension inches	PVC Sch 80 Product Code	Universal Number
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Nipples



3/4" diameter

1-3/8 close	036437	883005
1-1/2	036448	883015
2	036490	883020
2-1/2	036491	883025
3	036492	883030
3-1/2	036493	883035
4	036494	883040
4-1/2	036495	883045
5	036496	883050
5-1/2	036497	883055
6	036498	883060
8	036500	883080
10	036501	883100
12	036502	883120

1" diameter

1-1/2 close	036438	884005
2	036449	884020
2-1/2	036504	884025
3	036505	884030
3-1/2	036506	884035
4	036507	884040
4-1/2	036508	884045
5	036509	884050
5-1/2	036510	884055
6	036511	884060
8	036512	884080
10	036514	884100
12	036515	884120

1-1/4" diameter

1-5/8 close	036439	885005
2	036450	885020
2-1/2	036516	885025
3	036517	885030
3-1/2	036518	885035
4	036519	885040
4-1/2	036520	885045
5	036521	885050
6	036522	885060
8	036523	885080
10	036524	885100
12	036525	885120

All Molded Flanges are rated at 150 psi at 73°F., non-shock. Standard 150 lb. bolting pattern.

CAUTION: When thermoplastic flanges are used with butterfly valves or other equipment, where a full face continuous support does not exist, a back-up ring or fiberglass reinforcement should be used to prevent cracking of the flange face.