

Volume II: Xirtec[®] 140 PVC & Corzan[®] CPVC Dimensional Data & Weights

Industrial Technical
Manual Series

THIRD EDITION

IPEX XIRTEC[®] 140 PVC & CORZAN[®] CPVC

Dimensional Data and Weights



IPEX

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IPEX Xirtec[®] 140 PVC & Corzan[®] CPVC

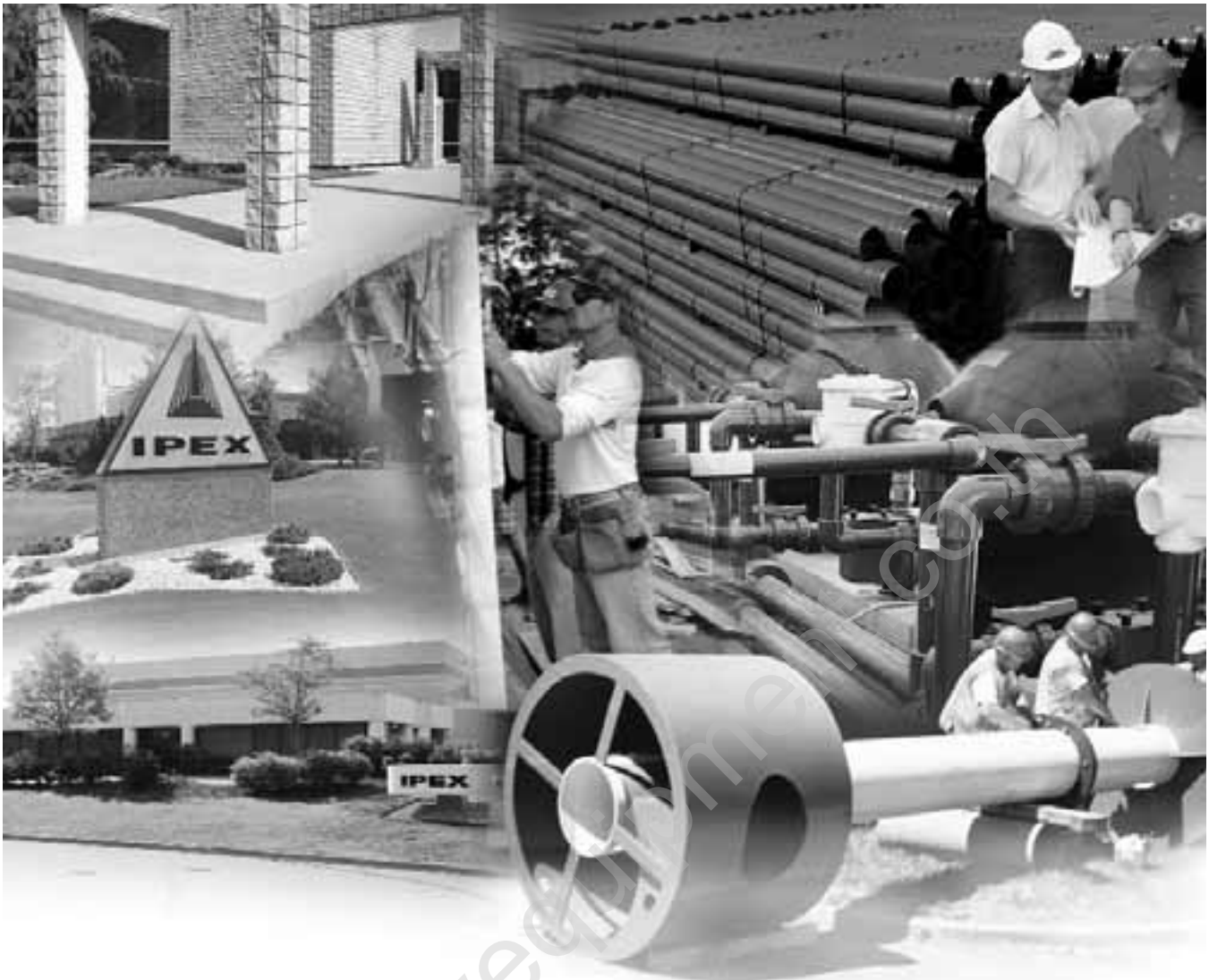
Dimensional Data & Weights

Industrial Technical Manual Series

Vol. II, 3rd Edition

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ABOUT IPEX

At IPEX, we have been manufacturing non-metallic pipe and fittings since 1951. We formulate our own compounds and maintain strict quality control during production. Our products are made available for customers thanks to a network of regional stocking locations throughout North America. We offer a wide variety of systems including complete lines of piping, fittings, valves and custom-fabricated items.

More importantly, we are committed to meeting our customers' needs. As a leader in the plastic piping industry, IPEX continually develops new products, modernizes manufacturing facilities and acquires innovative process technology. In addition, our staff take pride in their work, making available to customers their extensive thermoplastic knowledge and field experience. IPEX personnel are committed to improving the safety, reliability and performance of thermoplastic materials. We are involved in several standards committees and are members of and/or comply with the organizations listed on this page.

For specific details about any IPEX product, contact our customer service department.



SAFETY ALERTS

Engineered thermoplastics are safe inert materials that do not pose any significant safety or environmental hazards during handling or installation. However, improper installation or use can result in personal injury and/or property damage. It is important to be aware of and recognize safety alert messages as they appear in this manual.

The types of safety alert messages are described below.



This safety alert symbol indicates important safety messages in this manual. When you see this symbol be alert to the possibility of personal injury and carefully read and fully understand the message that follows.



WARNING

“WARNING” identifies hazards or unsafe practices that can result in severe personal injury or death if instructions, including recommended precautions, are not followed.



CAUTION

“CAUTION” identifies hazards or unsafe practices that can result in minor personal injury or product or property damage if instructions, including recommended precautions, are not followed.

Note: The use of the word “NOTE” signifies special instructions which are important but are not related to hazards.

For the materials described in this manual, the following warning applies.



WARNING



- **NEVER** use compressed air or gas in PVC/CPVC/PP/PVDF pipe and fittings.
- **NEVER** test PVC/CPVC/PP/PVDF pipe and fittings with compressed air or gas, or air-over-water boosters.
- **ONLY** use PVC/CPVC/PP/PVDF pipe for water and approved chemicals.

Use of compressed air or gas in PVC/CPVC/PP/PVDF pipe and fittings can result in explosive failures and cause severe injury or death.

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SECTION ONE: GENERAL INFORMATION

OVERVIEW

This manual provides the most up-to-date dimensional information about vinyl process piping fittings produced by IPEX.

Only IPEX offers Xirtec®, a complete system of pipe, valves, and fittings engineered and manufactured to IPEX's strict quality, performance and dimensional standards.

Xirtec® (PVC) and Corzan® (CPVC) high performance systems feature outstanding resistance to photo degradation, creep stress and immunity to oxidation, and are exceptionally suited for use with a wide range of acids, alcohols, salts and halogens.

For comprehensive design and installation information regarding IPEX's Xirtec® and Corzan® systems, please refer to Volume 1 of the IPEX Industrial Technical Manual Series entitled, "*Vinyl Process Piping Systems*".

MATERIAL DESCRIPTION

PVC (Polyvinyl Chloride)

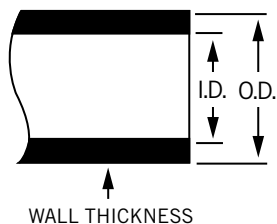
Xirtec 140 PVC used in the manufacture of Schedule 40 and 80 fittings is of Type I, Grade 1 compound (cell classification 12454) as stated in ASTM D1784. The maximum service temperature for PVC is 140°F (60°C) under pressure, with occasional exposure to boiling water (212°F, 100°C). With a hydrostatic design basis of 4000 PSI at 73°F (23°C) and a design stress of 2000psi at 73°F (23°C) PVC has the highest long-term hydrostatic strength of any major thermoplastic material used for piping.

CPVC (Chlorinated Polyvinyl Chloride)

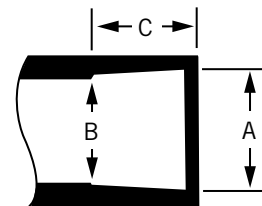
Corzan CPVC used in the manufacture of Schedule 80 fittings is of Type IV, Grade 1 compound (cell classification 24448) as stated in ASTM D1784. The maximum service temperature for CPVC is 200°F (93°C) under pressure with occasional exposure to boiling water (212°F, 100°C). Similar to PVC, the hydrostatic design basis of CPVC is 4000psi at 73°F (23°C), and the design stress is 2000psi at 73°F (23°C). CPVC has physical properties similar to PVC at 73°F (23°C) and chemical resistance similar to or generally better than PVC. CPVC has proved to be an excellent piping material for hot and cold corrosive liquids, hot and cold water distribution, and similar applications above the temperature range of PVC.

STANDARD SCHEDULE 80 DIMENSIONS

Pipe Dimension
 ASTM D1785 (PVC)
 ASTM F441 (CPVC)



Socket Dimension
 ASTM D2467 (PVC)
 ASTM F439 (CPVC)



Nominal Pipe Size (in)	Pipe O.D.	O.D. Tolerance	Minimum Wall Thickness
1/8	0.405	±0.004	0.095
1/4	0.540	±0.004	0.119
3/8	0.675	±0.004	0.126
1/2	0.840	±0.004	0.147
3/4	1.050	±0.004	0.154
1	1.315	±0.005	0.179
1-1/4	1.660	±0.005	0.191
1-1/2	1.900	±0.006	0.200
2	2.375	±0.006	0.218
2-1/2	2.875	±0.007	0.276
3	3.500	±0.008	0.300
4	4.500	±0.009	0.337
5	5.563	±0.010	0.375
6	6.625	±0.011	0.432
8	8.625	±0.015	0.500
10	10.750	±0.015	0.593
12	12.750	±0.015	0.687

Nominal Pipe Size (in)	Diameter			Minimum Socket Length (C)
	Socket Entrance I.D. (A)	Socket Bottom I.D. (B)	Tolerance (A)	
1/8	0.417	0.401	±0.004	0.500
1/4	0.552	0.536	±0.004	0.625
3/8	0.687	0.671	±0.004	0.750
1/2	0.848	0.836	±0.004	0.875
3/4	1.058	1.046	±0.004	1.000
1	1.325	1.310	±0.005	1.125
1-1/4	1.670	1.655	±0.005	1.250
1-1/2	1.912	1.894	±0.006	1.375
2	2.387	2.369	±0.006	1.500
2-1/2	2.889	2.868	±0.007	1.750
3	3.516	3.492	±0.008	1.875
4	4.518	4.491	±0.009	2.250
5	5.583	5.553	±0.010	2.625
6	6.647	6.614	±0.011	3.000
8	8.665	8.610	±0.015	4.000
10	10.780	10.735	±0.015	5.000
12	12.780	12.735	±0.015	6.000

Note: All dimensions measured in inches (in.)

SALES AND CUSTOMER SERVICE

Canadian Customers call IPEX Inc.

Toll free: (866) 473-9462

www.ipexinc.com

U.S. Customers call IPEX USA LLC

Toll free: (800) 463-9572

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About the IPEX Group of Companies

As leading suppliers of thermoplastic piping systems, the IPEX Group of Companies provides our customers with some of the largest and most comprehensive product lines. All IPEX products are backed by more than 50 years of experience. With state-of-the-art manufacturing facilities and distribution centers across North America, we have established a reputation for product innovation, quality, end-user focus and performance.

Markets served by IPEX group products are:

- Electrical systems
- Telecommunications and utility piping systems
- PVC, CPVC, PP, ABS, PEX, FR-PVDF and PE pipe and fittings (1/4" to 48")
- Industrial process piping systems
- Municipal pressure and gravity piping systems
- Plumbing and mechanical piping systems
- PE Electrofusion systems for gas and water
- Industrial, plumbing and electrical cements
- Irrigation systems

Products manufactured by IPEX Inc. and distributed in the United States by IPEX USA LLC.

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Corzan® is a registered trademark of the Lubrizol Corp.

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A policy of ongoing product improvement is maintained. This may result in modifications of features and/or specifications without notice.

