CPVC SCHEDULE 80 FITTINGS

80C-2-1199

Performance Engineered and Tested

Full 1/4" Through 12" Availability

Spears comprehensive line of CPVC fittings offers a variety of configurations in Schedule 80 sizes 1/4" through 12".

Exceptional Chemical & Corrosion Resistance

Unlike metal, CPVC fittings never rust, scale or pit, and will provide many years of maintenance-free service and extended system life.

Higher Temperature Ratings

High Temperature CPVC Thermoplastics can handle fluids at service temperatures up to 200° F, allowing a wide range of process applications, including hot corrosive liquids.

Higher Flow Capacity

Smooth interior walls result in lower pressure loss and higher volume than conventional metal fittings.

Lower Installation Costs

Substantially lower material costs than steel alloys or lined steel, combined with lighter weight and ease of installation, can reduce installation costs by as much as 60% over conventional metal systems.

CPVC Valves

SPEARS CPVC Valve products are available for total system copatability and uniformity; see SPEARS' THERMOPLASTIC VALVES PRODUCT GUIDE AND ENGINEERING SPECIFICATIONS (V-4).

SPEARS Schedule 80 CPVC fitting designs combine years of proven experience with computer generated stress analysis to yield the optimum physical structure and performance for each fitting. Material reinforcement is uniformly placed in stress concentration areas for substantially improved pressure handling capability. Resulting products are subjected to numerous verification tests to assure obtaining the very best CPVC fittings available.

SPEARS Injection Molded Schedule 80 10" & 12" Large Diameter Fittings

CPVC Schedule 80 Large Diameter fittings are a special engineered product by Spears Manufacturing Company, where no applicable ASTM specification exists. Available in a variety of configurations, including Tees, 90° Elbows, 45° Elbows, Bushings and Flanges. Plus additional fabricated Schedule 80 CPVC configurations.

Sample Engineering Specifications

All CPVC Schedule 80 injection molded fittings shall be produced by Spears Manufacturing Company from CPVC, cell classification 23447, conforming to ASTM Standard D 1784. All CPVC Schedule 80 fittings shall be listed for potable water service by the National Sanitation Foundation (NSF) and manufactured in strict compliance to ASTM F 437 for threaded fittings and ASTM F 439 for socket type fittings and Spears specifications for 10" and 12" fittings.

All CPVC flanges shall be designed and manufactured to meet CL150 bolt pattern specifications per ANSI Standard B16.5 and rated for a maximum internal pressure of 150 psi, non-shock at 73°F.

LOSS PREVENTION CERTIFICATION BOARD LPCB NATIONAL ACCREDITATION OF CERTIFICATION BODIES

Quality Systems Certificate No. 293
Corporate Facilities, Sylmar, CA
Assessed to ISO 9001

CPVC Thermoplastic Material Temperature Pressure De-rating

Elevated temperature fluid mediums require a de-rating of thermoplastic pipe maximum internal pressure ratings at 73°F. To determine the maximum internal pressure rating at an elevated temperature, simply multiply the product pressure rating at 73°F by the percentage specified for the desired temperature.

System Operating Temperature °F (°C)	73-80 (23-27)	90 (32)	100 (38)	110 (43)	120 (49)	130 (54)	140 (60)	150 (66)	160 (71)	170 (77)	180 (82)	190 (88)	200 (93)	210 (99)
CPVC	100%	92%	82%	77%	65%	62%	50%	47%	40%	32%	25%	22%	20%	-0-

CPVC Basic Physical Properties

Properties	ASTM Test Method	CPVC
Mechanical Properties, 73°F		
Specific Gravity, g/cm^3	D 792	1.55
Tensile Strength, psi	D 638	8,000
Modulus of Elasticity, psi	D 638	360,000
Compressive Strength, psi	D 695	10,100
Flexural Strength, psi	D 790	15,100
Izod Impact, notched, ft-lb/in	D 256	1.5
Thermal Properties		
Heat Deflection Temperature,°F at 66 psi	D 648	217
Thermal Conductivity, BTU/hr/sq ft/°F/in	C 177	.95
Coefficient of Linear Expansion, in/in/°F	D 696	3.4 x 10^{-5}
Flammability		
Limiting Oxygen Index, %	D 2863	60
UL 94 Rating		V-0, 5VB, 5VA
Other Properties		
Water Absorption, % 24 hr.	D 570	.03
Industry Standard Color		Medium Gray
ASTM Cell Classification	D 1784	23447
NSF Potable Water Approved		Yes

CPVC Chemical Resistance

Weak acids	Excellent
Strong acids	Excellent
Weak bases	Excellent
Strong bases	Excellent
Salts	Excellent
Aliphatic Solutions	Good
Halogens	Good-Fair
Strong Oxidants	Good-Fair

CPVC is not recommended for use with chlorinated or aromatic hydrocarbons, esters, or polar solvents such as ketones.

NOT FOR USE WITH COMPRESSED AIR OR GASES

Spears Manufacturing Company DOES NOT RECOMMEND the use of thermoplastic piping products for systems to transport or store compressed air or gases, or the testing of thermoplastic piping systems with compressed air or gases in above and below ground locations. The use of our product in compressed air or gas systems automatically voids any warranty for such products, and its use against our recommendation is entirely the responsibility and liability of the installer.

WARNING: DO NOT USE COMPRESSED AIR OR GAS TO TEST ANY PVC OR CPVC THERMOPLASTIC PIPING PRODUCT OR SYSTEM, AND DO NOT USE DEVICES PROPELLED BY COMPRESSED AIR OR GAS TO CLEAR SYSTEMS. THESE PRACTICES MAY RESULT IN EXPLOSIVE FRAGMENTATION OF SYSTEM PIPING COMPONENTS CAUSING SERIOUS OR FATAL BODILY INJURY.