



# PVC SCHEDULE 80 FITTINGS AND PIPE

80-2-0716

## Performance Engineered & Tested



SPEARS® Schedule 80 PVC product 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 PVC fittings available.

### 1/4" Through 14" Availability

Spears® comprehensive line of PVC injection molded fittings and extruded pipe offers a variety of configurations in sizes 1/4" through 14". Schedule 80 fittings are manufactured to ASTM D 2467 and pipe is produced to ASTM D 1785. Spears® exclusive CL150 Flanges are produced in sizes 1/2" - 18" with ANSI B16.5 bolt patterns, plus numerous Unions, Saddles, Transition and Specialty fittings in a variety of sizes.

### Exceptional Chemical & Corrosion Resistance

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

### High Temperature Ratings

PVC thermoplastic can handle fluids at service temperatures up to 140° F (60° C), allowing a wide range of process applications, including corrosive fluids.

### 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.

### Higher Flow Capacity

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

### Additional Fabricated Configurations through 36"

Extra large, hard-to-find, and custom configurations are fabricated from NSF® Certified pipe. Fittings are engineered and tested to provide full pressure handling capabilities according to Spears® specifications.

### Advanced Design Specialty Fittings

Spears® wide range of innovative, improved products include numerous metal-to-plastic transition fittings and unions with Spears® patented special reinforced (SR) plastic threads.

### PVC Valves

SPEARS® PVC Valve products are available for total system compatibility and uniformity; see VALVES IN SPEARS® PRODUCT SOURCE BOOK.



Assessed to ISO 9001: 2008  
Certificate number 293

### Sample Engineering Specifications

All PVC Schedule 80 pipe and fittings shall be produced by Spears® Manufacturing Company from PVC Type I, cell classification 12454, conforming to ASTM Standard D 1784. All PVC injection molded Schedule 80 fittings and extruded pipe shall be Certified for potable water service by NSF® International. All Schedule 80 fittings shall be manufactured in strict compliance to ASTM D 2467 and Schedule 80 pipe shall be manufactured in strict compliance to ASTM D 1785. All fabricated fittings shall be produced in accordance with Spears® General Specifications for Fabricated Fittings. All PVC flanges shall be designed and manufactured to meet CL150 bolt pattern per ANSI Standard B16.5 and rated for a maximum internal pressure of 150 psi, non-shock at 73° F through size 18".

**PROGRESSIVE PRODUCTS FROM SPEARS® INNOVATION & TECHNOLOGY**

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## PVC Thermoplastic Pipe Temperature Pressure De-Rating

To determine the maximum internal pressure rating at an elevated temperature, simply multiply the pipe pressure rating at 73° F by the percentage specified for the desired temperature.

System Operating Temperature ° F (° C)	73 (23)	80 (27)	90 (32)	100 (38)	110 (43)	120 (49)	130 (54)	140 (60)
PVC	100%	90%	75%	62%	50%	40%	30%	22%

**NOTE:** Valves, Unions and Specialty Products have different elevated temperature ratings than pipe.

### Typical Material Properties

Properties	ASTM Test Method	PVC
<b>Mechanical Properties, 73°F</b>		
Specific Gravity, g/cm <sup>3</sup>	D 792	1.41
Tensile Strength, psi	D 638	7,200
Modulus of Elasticity, psi	D 638	440,000
Compressive Strength, psi	D 695	9,000
Flexural Strength, psi	D 790	13,200
Izod Impact, notched, ft-lb / in	D 256	.65
<b>Thermal Properties</b>		
Heat Deflection Temperature, ° F at 66 psi	D 648	165
Thermal Conductivity, BTU / hr / sq ft / ° F / in	C 177	1.2
Coefficient of Linear Expansion, in / in / ° F	D 696	3.1 x 10 <sup>-5</sup>
<b>Flammability</b>		
Limited Oxygen Index, %	D 2863	43
UL 94 Rating	94V-0	
<b>Other Properties</b>		
Water Absorption, % 24 hr.	D 570	.05
Industry Standard Color	White / Dark Gray	
ASTM Cell Classification	D 1784	12454
NSF® Potable Water Approved	YES	

### PVC Chemical Resistance

PVC is generally inert to most mineral acids, bases, salts and paraffinic hydrocarbon solutions. For more information on PVC chemical resistance refer to the Chemical Resistance of Rigid Vinyls Based on Immersion Test, published by the GEON® company.

**NOT FOR DISTRIBUTION OF  
COMPRESSED AIR OR GAS**



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