HYTEK PLASTIC SALES CHEMKOR PIPING SYSTEMS

PRESSURE RATINGS FOR PIPE AND FITTINGS

Pipe

In order to determine the pressure rating for a product system, first find the plastic material and schedule wall thickness for the pipe and fittings in the heading of the Maximum Non-shock operating pressure table below. Then, locate the selected joining method in the subheading of the table and go down the column to the value across from a particular pipe size, listed in the far left column. This will be the maximum non-shock operating pressure at 73°F for the defined product system.

NOTE: NR = NOT RECOMMENDED

Maximum Non-Shock Operating Pressure (PSI) at 73°F1

NOMINAL PIPE SIZE	SCH 40 PVC & CPVC	SCH 80 CPVC & PVC		SCH 80 POLY PRO	SCH 80 PVDF	
		Soc End	Thr'd End		Thermo Joint	Thr'd End
½"	600	850	420	410	580	290
¾"	480	690	340	330	470	235
1"	450	630	320	310	430	215
1 ¼"	370	520	260	--	--	--
1 ½"	330	470	240	230	320	160
2"	280	400	200	200	275	135
2 ½"	300	420	210***	185	255	125
3"	260	370	190***	185	255	125
4"	220	320	160***	160	220	110
6"	180	280	N.R.	N.R.	--	--
8"	160	250	N.R.	--	--	--
10"	140	230	N.R.	--	--	--
12"	130	230	N.R.	--	--	--

Based on water service, for more severe service, an additional correction factor may be required.

*** For threaded and back welded joints.

As implied by the preceding, the pressure for all thermoplastic piping is a function of temperature. For pipe and fitting applications above 73°F, refer to the table at the top of the next column for the Temperature Correction Factors. To determine the maximum non-shock pressure rating at an elevated temperature, simply multiply the base pressure rating obtained from the upper table by the correction factor from the upper table in the next column. Below 73°F the pressure rating will be the same as the base pressure in the table above.

PLASTIC PIPING IS NOT RECOMMENDED FOR COMPRESSED AIR OR GAS SERVICE.

Temperature Correction Factors

OPERATING TEMP °F	PVC	CPVC	PP	PVDF
70	1.00	1.00	1.00	1.00
80	0.90	0.96	0.97	0.95
90	0.75	0.92	0.91	0.87
100	0.62	0.85	0.85	0.80
110	0.50	0.77	0.80	0.75
115	0.45	0.74	0.77	0.71
120	0.40	0.70	0.75	0.68
125	0.35	0.66	0.71	0.66
130	0.30	0.62	0.68	0.62
140	0.22	0.55	0.65	0.58
150	N.R	0.47	0.57	0.52
160	N.R	0.40	0.50	0.49
170	N.R	0.32	0.26	0.45
180	N.R	0.25	*	0.42
200	N.R	0.18	N.R	0.36
210	N.R	0.15	N.R	0.33
240	N.R	N.R	N.R	0.25
280	N.R	N.R	N.R	0.18

*Recommended for continuous drainage pressure only.

Fittings, Valves, Unions And Flanged Systems Maximum Operating Pressure (PSI) vs. Temperature

OPERATING TEMP °F	FACTORS			
	PVC**	CPVC**	PP***	PVDF
100	150	150	150	150
110	135	145	140	150
120	110	135	130	150
130	75	125	118	150
140	50	110	105	150
150	N.R.	100	93	140
160	N.R.	90	80	133
170	N.R.	80	70	125
180	N.R.	70	50	115
190	N.R.	60	N.R.	106
200	N.R.	50	N.R.	97
210	N.R.	40	N.R.	90
240	N.R.	N.R.	N.R.	60
280	N.R.	N.R.	N.R.	25

**PVC and CPVC flanges sizes 2-1/2 – 3 and 4 inch threaded must be back welded for the above pressure capability to be applicable.

***Threaded PP flanges size ½ through 4 inch are not recommended for back weld socket flange applications (drainage only.

Maximum pressure for any flanged system is 150 psi. At elevated temperatures the pressure capability of a flanged system must be de-rated according to the above chart.

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