

# PHYSICAL PROPERTIES OF THERMOPLASTIC PIPING MATERIALS

ASTM TEST METHODS	PROPERTIES	MATERIAL			
		PVC 12454-B	CPVC 23447-B	PVDF	POLYPROPYLENE
<b>GENERAL</b>					
D-792	Specific Gravity	1.38	1.55	1.76	.905
D-570	Water Absorption % 24 Hrs. @ 73°F	.05	.05	.04	.02
<b>MECHANICAL</b>					
D-638	Tensile Strength psi @ 73°F	7,940	8,4000	6,000	5,000
D-638	Modulus of Elasticity in Tension Psi @ 73°F x 10 <sup>5</sup>	4.2	4.2	2.1	1.7
D-790	Flexural Strength psi	14,500	15,600	9,700	7,000
D-256	Izod Impact Strength @ 73°F (notched)	.65	3.0	3.8	1.3
<b>THERMAL</b>					
D-696	Coefficient of Thermal Expansion Expansion in/in°F x 10 <sup>5</sup>	3.0	3.8	7.9	5.0
C-177	Thermal Conductivity BTU/HR/Sq. Ft./°F/in	1.2	.95	.79	1.2
D-648	Heat Distortion Temperature °F @ 66 psi	NA	238	284	220
D-648	Heat Distortion Temperature °F @ 264 psi	160	221	194	140
	Resistance to Heat °F at Continuous Drainage	140	210	280	180
<b>FLAMMABILITY</b>					
D-2863	Limiting Oxygen Index (%)	43	60	44	17
E-84	Flame Spread	15-20	15	0	NA
	Underwriters Lab Rating (Sub. 94)	94V-0	94V-0	94V-0	94HB
	Smoke Rate Density (National Bureau of Standards)	47.1	10	–	–