



Physical Properties of PVC & CPVC Pipe

GENERAL	PVC Value	CPVC Value	Test Method
Cell Classification	12454	23447	ASTM D1784
Maximum Service Temp.	140°F	200°F	
Color	White, Dark Gray	Medium Gray	
Specific Gravity, (g/cu.cm @ 73°F)	1.40 +/- .02	1.52 +/- .02	ASTM D792
Water Absorption % increase 24 hrs @ 25°C	0.05	0.03	ASTM D570
Hardness, Rockwell	110 - 120	117	ASTM D785
Poisson's Ratio @ 73°F	0.410	0.386	
Hazen-Williams Factor	C = 150	C = 150	
MECHANICAL			
Tensile Strength, psi @ 73°F	7,450	7,750	ASTM D638
Tensile Modulus of Elasticity, psi @ 73°F	420,000	360,000	ASTM D638
Flexural Strength, psi @ 73°F	14,450	13,000	ASTM D790
Flexural Modulus, psi @ 73°F	360,000	360,000	ASTM D790
Compressive Strength, psi @ 73°F	9,600	10,000	ASTM D695
Izod Impact, notched, ft-lb/in @ 73°F	0.75	2.0	ASTM D256
THERMAL			
Coefficient of Linear Expansion (in/in/°F)	2.9 x 10 ⁻⁵	3.7 x 10 ⁻⁵	ASTM D696
Coefficient of Thermal Conductivity (Cal.)(cm)/(cm ²)(Sec.)(°C)	3.5 x 10 ⁻⁴	3.27 x 10 ⁻⁴	ASTM C177
BTU/in/hr/ft ² /°F	1.02	0.95	
Watt/m/°K	0.147	0.137	
Heat Deflection Temperature Under Load (264 psi, annealed)	170°F	226°F	ASTM D648
Specific Heat, Cal./°C/gm	0.25		ASTM D2766
ELECTRICAL			
Dielectric Strength, volts/mil	1,413	1,250	ASTM D149
Dielectric Constant, 60Hz, 30°F	3.70	3.70	ASTM D150
Volume Resistivity, ohm/cm @ 95°C	1.2 x 10 ¹²	3.4 x 10 ¹⁵	ASTM D257
Power Factor, 1000Hz		0.007%	ASTM D150
GF Harvel PVC & CPVC Pipe is non-electrolytic			
FIRE PERFORMANCE			
Flammability Rating	V-0	V-0, 5VB, 5VA	UL-94
Flame Spread Index	<10		ASTM E162
Flame Spread	0-25	<25 <25	ASTM E-84/UL 723 ULC
Smoke Generation	80-225	<50 <50	ASTM E-84/UL 723 ULC
Flash Ignition Temp.	730°F	900°F	
Average Time of Burning (sec.)	<5	<5	ASTM D635
Average Extent of Burning (mm)	<10	<10	
Burning Rate (in/min)	Self Extinguishing	Self Extinguishing	
Softening Starts (approx.)	250°F	295°F	
Material Becomes Viscous	350°F	395°F	
Material Carbonizes	425°F	450°F	
Limiting Oxygen Index (LOI)	43	60	ASTM D2863
Clean Room Materials Flammability Test	N/A	FPI= 1.20 SDI = 0.09	FM 4910

NOTE The physical properties shown above pertain to GF Harvel PVC (SDR Series, Schedule 40, 80 & 120) and GF Harvel CPVC (Schedule 40 and 80) industrial pipe. The physical properties shown for CPVC pipe are considered general CPVC physical properties. GF Harvel utilizes several CPVC compounds for the production of different CPVC product lines. Different CPVC compounds may exhibit slight variations in actual physical properties as compared to those stated. Physical properties shown pertain to product lines stated. Refer to appropriate Specialty Piping Systems section for physical properties of specialty pipe (i.e. GF Harvel Clear™, GF Harvel LXT®, GF Harvel EnviroKing™, UVClear, GF Harvel HydroKing® CTS CPVC, GF Harvel Fire Sprinkler Pipe, GF Harvel FlameTech™, etc.) Contact GF Harvel tech services for additional information if necessary.