

Polyvinyl Chloride

(PVC)

KEY FEATURES

- High Mechanical Strength, Tensile Strength and Hardness
- Low Water Absorption
- Easy to Varnish and Glue
- Good Insulation Properties for Electronics
- Low Impact Strength
- High Chemical Resistance
- Increased Impact Strength
- Self-Extinguishing
- Limited Weather Resistance

DESCRIPTION

Polyvinyl Chloride is rated self-extinguishing, has an exceptional chemical resistance and is easy to machine. PVC shows high mechanical strength, tensile strength and can be used in applications ranging in temperatures from +5 °F to +140 °F. With repeated UV exposure, the material may change color and exhibit a slight increase in tensile strength as well as a slight decrease in impact strength. It can also be easily solvent cemented and welded.

TYPICAL PROPERTY VALUES

Physical	Properties	Condition	Units	Value	ASTM Test
	Density		g/cm ³	1.38	D792
	Chemical Designation			PVC	
	Filler				

Mechanical	Properties	Condition	Units	Value	ASTM Test
	Tensile Modulus	@ 73 °F	PSI	411,000	D638
	Tensile Strength	@ 73 °F	PSI	7,300	D638
	Shear Strength	@ 73 °F	PSI		
	Elongation	@ 73 °F	%	3	D638
	Compressive Strength	@ 73 °F, 10% strain	PSI	17,500	
	Flexural Modulus	@ 73 °F	PSI	481,000	D790
	Flexural Strength	@ 73 °F	PSI	12,800	D790
	Compressive Modulus	@ 73 °F	PSI		
	Izod (Charpy) Impact Strength	@ 73 °F	ft-lbs/in	0.9	D256
	Shore Hardness	@ 73 °F	D Scale	65-85	D785
	Coefficient of Friction	Static			
Coefficient of Friction	Dynamic, 40PSI, 50 FPM				

Thermal	Properties	Condition	Units	Value	ASTM Test
	Heat Deflection Temperature	@ 66 PSI	°F		
	Service Temperature	Long Term	°F		
	Heat Deflection Temperature	@ 264 PSI	°F	176	
	Service Temperature	Intermittent	°F		
	Thermal Expansion (CLTE)		in/in/°F	2.9	D696
	Specific Heat		BTU/lb-°F		
Thermal Conductivity		BTU-in/hr-ft ² -°F	3.5 - 5.0	C177	

Electrical	Properties	Condition	Units	Value	ASTM Test
	Surface Resistivity		ohms/square		
	Volume Resistivity		ohm-cm	>10 ¹⁶	
	Dielectric Constant	50% RH		4.0 - 8.0	D150
	Dielectric Strength	@ 60 Hz, 73 °F	V/mil	350 - 500	D149
Dissipation Factor	@ 60 Hz, 73 °F		0.07 - 0.16	D150	

Other	Properties	Condition	Units	Value	ASTM Test
	Moisture Absorption	@ 24 hrs, 73 °F	%	0.04 - 0.4	D570
	Moisture Absorption	@ Saturation, 73 °F	%		
	Flammability	UL 94		V-0	
	Food Grade			N	
Relative Cost			\$		

• The data stated above are typical values intended for reference and comparison purposes only.
• The data should not be used as a basis for design specifications or quality control.

• The information is provided as a guide to the best of our knowledge and given without obligation or liability.
• Testing under individual application circumstances is recommended