

POLYVINYL CHLORIDE (PVC)

KEY FEATURES

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

	Properties	Condition	Units	Value	ASTM Test
Physical	Chemical Designation			PVC	
	Filler				
	Density		g/cm ³	1.38	D792
Mechanical	Tensile Modulus	@ 73 °F	PSI	3.5 - 10	D638
	Tensile Strength @ Yld	@ 73 °F	PSI	7,300	D638
	Tensile Strength @ Brk	@ 73 °F	PSI	16,000	D638
	Shear Strength	@ 73 °F	PSI		
	Elongation	@ 73 °F	%	50-150	D638
	Flexural Modulus	@ 73 °F	PSI	410,000	D790
	Flexural Strength	@ 73 °F	PSI	15,000	D790
	Compressive Modulus	@ 73 °F	PSI		
	Compressive Strength	@ 73 °F, 10% strain	PSI	17,500	
	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			

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Thermal	Vicat Softening Point		°F		
	Melting Temperature		°F		
	Heat Deflection Temperature	@ 66	°F		
	Heat Deflection Temperature	@ 264	°F		
	Service Temperature	Intermittent	°F		
	Service Temperature	Long Term	°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	Surface Resistivity		ohms/square		
	Volume Resistivity	@ 73 °F, 50% RH	ohm-cm	>10 ¹⁶	
	Dielectric Strength		V/mil	350 - 500	D149
	Dielectric Constant	@ 1 kHz	3.0 - 3.8	4.0 - 8.0	D150
	Dissipation Factor	@ 1 kHz	.009-.017	.07 - .16	D150
Other	Moisture Absorption	@ 24 hrs, 73 °F	%	.04 - .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.