

POLYPROPYLENE (PP) Homopolymer

KEY FEATURES

· High Tensile Strength

· Resistant to Organic Solvents

- · Resistant to Stress Cracking
- · Low Moisture Absorption

· Retains Properties at Elevated Temperatures

DESCRIPTION

Polypropylene is a lightweight heat-resistant, semi-rigid material ideally suited for use in applications at elevated temperature. In steam applications, its low moisture absorption rate and resistance to staining makes it an excellent choice. High tensile strength coupled with impact resistance and high compressive strength allow it to be used in a multitude of structural applications. Polypropylene can easily be machined with wood or metal working tools into intricate shapes. Pieces can be joined by numerous welding techniques including both fusion and butt welding along with many other methods.

	Properties	Condition	Units	Value	ASTM Test
Physical	Chemical Designation			PP	
	Filler				
	Density		g/cm ³	0.03	D792
cal	Tensile Modulus	(@) 73 F	PSI	195,000	D638
	Tensile Strength	@ 73 °F	PSI	4,800	D638
	Shear Strength	@ 73 °F	PSI		
	Elongation @ Yld	@ 73 °F	%		
	Tensile Elongation @ Brk	@ 73 °F	%	12	D638
	Flexural Modulus	@ 73 °F	PSI	180,000	D790
ani	Flexural Strength	@ 73 °F	PSI	7,000	D790
ç	Compressive Modulus	@ 73 °F	PSI		
Β̈́	Compressive Strength	@ 73 °F, 10% strain	PSI	7,000	D695
	Izod (charpy) Impact Strength	@ 73 °F	ft-lbs/in	1.9	D256
	Rockwell Hardness	@ 73 °F	R Scale	92	D785
	Coefficient of Friction	Static			
	Wear (K) Factor		in ³ -min/ft-lbs-hr		
	Limiting PV		psi-fpm		

TYPICAL PROPERTY VALUES



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Properties	Condition	Units	Value	ASTM Test
Vicat Softening Point		°F		
Melting Temperature		°F	327	D3418
Heat Deflection Temperature	@ 66	°F		
Heat Deflection Temperature	@ 264	°F	125	D648
Service Temperature	Intermittent	°F		
Service Temperature	Long Term	°F	180	
Thermal Expansion (CLTE)		in/in/°F	6.2x10 ⁻⁵	D696
Specific Heat		BTU/lb-°F		
Thermal Conductivity		BTU-in/hr-ft ^{2-°F}	.7681	
		1 /		
Surface Resistivity		ohms/square		
Volume Resistivity		ohm-cm		
Dielectric Strength	Short Term	V/mil	500 - 660	D149
Dissipation Factor	@ 60 Hz, 73 °F			
Moisture Absorption	@ 24 hrs. 73 °F	0/6	<0.01	D696
Moisture Absorption	@ Saturation. 73 °F	%	\$0.01	2050
Flammability	111 94	70		
Food Grade	OL J4			
Relative Cost				
	Properties Vicat Softening Point Melting Temperature Heat Deflection Temperature Heat Deflection Temperature Service Temperature Surface Resistivity Volume Resistivity Volume Resistivity Dielectric Strength Dissipation Factor Moisture Absorption Moisture Absorption Flammability Food Grade Relative Cost	PropertiesConditionVicat Softening Point Melting Temperature@ 66Heat Deflection Temperature@ 264Heat Deflection Temperature@ 264Service TemperatureLong TermService TemperatureLong TermThermal Expansion (CLTE) Specific HeatService TemperatureSurface ResistivityVolume ResistivityVolume ResistivityShort TermDielectric StrengthShort TermDissipation Factor@ 60 Hz, 73 °FMoisture Absorption@ 24 hrs, 73 °FMoisture Absorption@ Saturation, 73 °FFlammabilityUL 94Food GradeRelative Cost	PropertiesConditionUnitsVicat Softening Point°FMelting Temperature°FHeat Deflection Temperature@ 66°FHeat Deflection Temperature@ 264°FService TemperatureIntermittent°FService TemperatureLong Term°FThermal Expansion (CLTE)in/in/°FSpecific HeatBTU/lb-°FThermal ConductivityBTU-in/hr-ft ^{2-°F} Surface Resistivityohms/squareVolume Resistivityohm-cmDielectric StrengthShort TermV/milDissipation Factor@ 60 Hz, 73 °F%Moisture Absorption@ 24 hrs, 73 °F%FlammabilityUL 94%Food GradeRelative Cost	PropertiesConditionUnitsValueVicat Softening Point°F327Melting Temperature@ 66°F327Heat Deflection Temperature@ 264°F125Service TemperatureIntermittent°F125Service TemperatureLong Term°F180Thermal Expansion (CLTE)in/in/°F6.2x10-5Specific HeatBTU/lb-°F8TU/lb-°FSurface Resistivityohms/square.7681Volume Resistivityohms/square.7681Dielectric StrengthShort TermV/mil500 - 660Dissipation Factor@ 60 Hz, 73 °F%<0.01Moisture Absorption@ 24 hrs, 73 °F%<0.01Moisture Absorption@ 3turation, 73 °F%<0.01FlammabilityUL 94UL 94Flative CostKelative CostKelative CostKelative 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.

WWW.EAGLE-PLASTICS.COM

info@eagle-plastics.com