

CAST NYLON 6 - Unfilled

KEY FEATURES

- High Impact Resistance
- Excellent Vibration Resistance
- Resistance to Brittleness and Deterioration
- Easy Machinability and Abrasion Resistance
- High Heat Distortion Temperature

DESCRIPTION

Unfilled Cast Nylon 6 products have delivered successful performance, with and without lubrication, in a variety of diverse applications, particularly as a bearing material. They are lightweight, offer extremely good wear resistance, high tensile strength and high modulus of elasticity.

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Physical	Chemical Designation				
	Filler				
	Density		g/cm ³	1.15 - 1.17	D792
Mechanical	Tensile Modulus	@ 73 °F	PSI	400,000 - 550,000	D638
	Tensile Strength	@ 73 °F	PSI	10,000 - 13,500	D638
	Shear Strength	@ 73 °F	PSI	10,000 - 11,000	D732
	Tensile Elongation	@ 73 °F	%	20 - 55	D638
	Flexural Modulus	@ 73 °F	PSI	420,000 - 500,000	D790
	Flexural Strength	@ 73 °F	PSI	15,000 - 17,500	D790
	Compressive Modulus	@ 73 °F	PSI	325,000 - 400,000	D790
	Compressive Strength	@ 73 °F, 10% strain	PSI	13,500 - 16,000	D695
	Izod (charpy) Impact Strength	@ 73 °F	ft-lbs/in	1.5 - 2.5	D256
	Rockwell Hardness	@ 73 °F	M (R) Scale	110 - 115	D785
	Deformation Under Load		%	0.5 - 2.5	D 21
	Coefficient of Friction	Dynamic		0.26	D1894

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Thermal	Vicat Softening Point				
	Melting Temperature		°F	430 +/- 10	D3418
	Heat Deflection Temperature	@ 66	°F	300 - 400	D648
	Heat Deflection Temperature	@ 264	°F	200 - 300	D648
	Service Temperature	Intermittent	°F	330	
	Service Temperature	Long Term	°F	230	
	Thermal Expansion (CLTE)		in/in/°F	5.0*10 ⁻⁵	D696
Electrical	Dielectric Strength		v/mil	500 - 600	D149
	Dielectric Constant	@60 Hz		3.7	D150
	Dielectric Constant	@1000 Hz		3.7	D150
	Dielectric Constant	@1MHz		3.7	D150
Other	Moisture Absorption	@ 24 hours	%	0.5 - 0.6	D570
	Moisture Absorption	@ Saturation	%	4.0 - 6.0	D570
	FDA Compliant			Yes	
	USDA 3A Compliant			Yes	
	UL 94 HB Compliant			Yes	

*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.