EAGLE PERFORMANCE PLASTICS
Custom Machined Plastic Components

CAST NYLON 6 - Impact Modified

KEY FEATURES

- High Impact Resistance
- High Tensile Elongation
- Resistance to Brittleness and Deterioration
- Works Under Low Temperature Circumstances
- Noise Dampening

DESCRIPTION

Impact Modified Cast Nylon 6 is designed to address the problems associated with impact loads. The formulations provide performance advantages in applications that require improved impact properties over standard grades. Cushion pads protect the hammer from metal-to-metal damage in pile drivers and provide many performance advantages in certain gear, die block, valve seat and other applications. This formulation also provides superior performance in extreme cold temperature applications, where standard grades are prone to impact failure.

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Physical	Chemical Designation				
	Filler				
	Density		g/cm^3	1.14 - 1.16	D792
Mechanical	Tensile Modulus	@ 73 °F	PSI	375,000 - 475,000	D638
	Tensile Strength	@ 73 °F	PSI	9,000 - 11,000	D638
	Shear Strength	@ 73 °F	PSI	7,500 - 10,000	D732
	Tensile Elongation	@ 73 °F	%	25 - 35	D638
	Flexural Modulus	@ 73 °F	PSI	300,000 - 360,000	D790
	Flexural Strength	@ 73 °F	PSI	12,000 - 13,000	D790
	Compressive Modulus	@ 73 °F	PSI	300,000 - 375,000	D790
	Compressive Strength	@ 73 °F, 10% strain	PSI	12,500 - 15,000	D695
	Izod (charpy) Impact Strength	@ 73 °F	ft-lbs/in	2.5 - 6.0	D256
	Rockwell Hardness	@ 73 °F	M (R) Scale	95 - 110	D785
	Deformation Under Load		%	1.0 - 3.0	D 21
	Coefficient of Friction	Dynamic		0.26	D1894

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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			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			No	
	USDA 3A Compliant			No	
	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.