

# CAST NYLON 6/12

## KEY FEATURES

- High Impact Resistance
- High Tensile Elongation
- Reduced Water Absorption
- Standard Color Yellow
- Easy to Machine
- Lower Coefficient of Expansion

## DESCRIPTION

Highly resilient, with higher tensile elongation and impact strength than standard grades, Cast Nylon 6-12 has proven itself in many applications requiring an extra degree of toughness. It was originally developed specifically for use in ball valve seats in the oil and gas industry. Cast Nylon 6-12 with its higher elongation, superior dimensional stability and safety yellow color has found itself a superior choice for wobbler box inserts and coupling boxes in the cold rolling steel industry as well as mandrels covers used in paper tube manufacturing plants.

## TYPICAL PROPERTY VALUES

		Properties	Condition	Units	Value	ASTM Test
<b>Physical</b>		Chemical Designation				
		Filler				
		Density		g/cm <sup>3</sup>	1.10 - 1.13	D792
<b>Mechanical</b>		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 - 9,000	D732
		Tensile Elongation	@ 73 °F	%	25 - 40	D638
		Flexural Modulus	@ 73 °F	PSI	325,000 - 475,000	D790
		Flexural Strength	@ 73 °F	PSI	13,000 - 16,000	D790
		Compressive Modulus	@ 73 °F	PSI	275,000 - 375,000	D790
		Compressive Strength	@ 73 °F, 10% strain	PSI	12,000 - 14,000	D695
		Izod (charpy) Impact Strength	@ 73 °F	ft-lbs/in	2.0 - 4.0	D256
		Rockwell Hardness	@ 73 °F	M (R) Scale	100 - 110	D785
		Deformation Under Load		%	1.0 - 3.0	D 21
		Coefficient of Friction	Dynamic		0.26	D1894

### TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
<b>Thermal</b>	Vicat Softening Point				
	Melting Temperature		°F	400 +/- 10	D3418
	Heat Deflection Temperature	@ 66	°F	300 - 400	D648
	Heat Deflection Temperature	@ 264	°F	200 - 300	D648
	Service Temperature	Intermittent	°F	300	
	Service Temperature	Long Term	°F	210	
	Thermal Expansion (CLTE)		in/in/°F	4.0 - 5.0*10 <sup>-5</sup>	D696
<b>Electrical</b>	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
<b>Other</b>	Moisture Absorption	@ 24 hours	%	0.2 - 0.3	D570
	Moisture Absorption	@ Saturation	%	3.0 - 5.0	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.