

Cast Nylons Nycast® 12 Cast Nylon 12

Category : Polymer , Thermoplastic , Nylon , Nylon 12 , Nylon 12, Cast

Material Notes:

NYCAST® 12 is specially formulated and designed to offer very low moisture absorption, superior wear resistance, dimensional stability, exceptional lubrication ability, outstanding mechanical characteristics, high impact strength, and lower thermal expansion. Typical applications include wheels, rollers, bearings & bushings, gears, and valve seals. Data provided by the manufacturer, Cast Nylons Limited.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Cast-Nylons-Nycast-12-Cast-Nylon-12.php

Physical Properties	Metric	English	Comments
Density	1.03 g/cc	0.0372 lb/in ³	ASTM D792
Water Absorption	0.12 %	0.12 %	24 hrs; ASTM D570
Water Absorption at Saturation	0.66 %	0.66 %	ASTM D570

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	108	108	ASTM D785
Hardness, Shore D	76	76	ASTM D2240
Tensile Strength	54.5 MPa	7900 psi	ASTM D638
Elongation at Break	>= 50 %	>= 50 %	ASTM D638
Tensile Modulus	1.59 GPa	230 ksi	ASTM D638
Flexural Strength	62.1 MPa	9000 psi	ASTM D790
Flexural Modulus	1.64 GPa	238 ksi	ASTM D790
Compressive Strength	68.9 MPa	10000 psi	ASTM D695
Compressive Modulus	1.54 GPa	224 ksi	ASTM D695
Shear Strength	42.1 MPa	6100 psi	ASTM D732
Izod Impact, Notched	1.61 J/cm	3.02 ft-lb/in	ASTM D256
Coefficient of Friction, Dynamic	0.2 - 0.3	0.2 - 0.3	ASTM D1894

Thermal Properties	Metric	English	Comments
CTE, linear	99.0 µm/m-°C	55.0 µin/in-°F	ASTM D696
Melting Point	177 °C	351 °F	ASTM D789

Maximum Service Temperature, Air Thermal Properties	121 °C Metric	250 °F English	Continuous Comments
	149 °C	300 °F	Intermittent
Deflection Temperature at 0.46 MPa (66 psi)	175 °C	347 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	51.1 °C	124 °F	ASTM D648

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.7	3.7	ASTM D150
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
	3.7	3.7	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	3.7	3.7	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	19.7 - 23.6 kV/mm	500 - 600 kV/in	ASTM D149

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