

Nycast Nymetal 6MPB

Polyamide 6

Cast Nylons Ltd.

Message:

Cast Nylons Ltd., the largest independently-owned North American manufacturer of cast nylon, has combined the best of both worlds - cast nylon and metal - to produce its NYMETAL™ composite. NYMETAL billets made exclusively with NYCAST® nylon and a variety of metal cores, are available for use in manufacturing gears, rollers, and sprockets primarily for power transmission. By combining the performance advantages of nylon and metal into one cohesive unit, NYMETAL offers advantages that cannot be obtained from traditional all metal or all nylon components.

General Information			
Uses	Gear		
	Roller		
Forms	Preform		
Processing Method	Casting		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.14 - 1.16	g/cm³	ASTM D792
Water Absorption			ASTM D570
24 hr	0.50 - 0.60	%	ASTM D570
Saturation	5.0 - 6.0	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	110 - 115		ASTM D785
Durometer Hardness (Shore D)	76 - 78		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2590 - 3030	MPa	ASTM D638
Tensile Strength	66.9 - 74.5	MPa	ASTM D638
Tensile Elongation (Break)	25 - 35	%	ASTM D638
Flexural Modulus	2280 - 2410	MPa	ASTM D790
Flexural Strength	82.7 - 89.6	MPa	ASTM D790
Compressive Modulus	1930 - 2380	MPa	ASTM D695
Compressive Strength (10% Strain)	86.2 - 104	MPa	ASTM D695
Shear Strength	68.9 - 75.8	MPa	ASTM D732
Deformation Under Load	1.00 - 2.00	%	ASTM D621
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	44 - 49	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, not annealed	204 - 221	°C	ASTM D648
1.8 MPa, not annealed	93.3 - 204	°C	ASTM D648
Continuous Use Temperature	110	°C	
Melting Temperature	227 - 238	°C	

CLTE - Flow	9.0E-5	cm/cm/°C	ASTM D696
Service Temperature - Intermittent	166	°C	
Electrical	Nominal Value	Unit	Test Method
Dielectric Strength	20 - 24	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.70		ASTM D150
1 kHz	3.70		ASTM D150
100 kHz	3.70		ASTM D150
Additional Information			

The test method for Max. Continuous Use Temp., ASTM D794, was unspecified by the manufacturer. The properties for Nycast 6MPB are based on the average of a range of values provided by the manufacturer.

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