

Nycast Nymetal 6MPY

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	Gears Rollers		
Forms	Preformed Parts		
Processing Method	Casting		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.14 to 1.16	g/cm ³	ASTM D792
Water Absorption			ASTM D570
24 hr	0.50 to 0.60	%	
Saturation	5.0 to 6.0	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	110 to 115		ASTM D785
Durometer Hardness (Shore D)	76 to 78		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2590 to 3030	MPa	ASTM D638
Tensile Strength	66.9 to 74.5	MPa	ASTM D638
Tensile Elongation (Break)	25 to 35	%	ASTM D638
Flexural Modulus	2280 to 2410	MPa	ASTM D790
Flexural Strength	82.7 to 89.6	MPa	ASTM D790
Compressive Modulus	1930 to 2380	MPa	ASTM D695
Compressive Strength (10% Strain)	86.2 to 104	MPa	ASTM D695
Shear Strength	68.9 to 75.8	MPa	ASTM D732
Deformation Under Load	1.00 to 2.00	%	ASTM D621
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	44 to 49	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	204 to 221	°C	
1.8 MPa, Unannealed	93.3 to 204	°C	
Continuous Use Temperature	110	°C	
Melting Temperature	227 to 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 to 24	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
60 Hz	3.70		
1 kHz	3.70		
100 kHz	3.70		

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