

Nycast 12

Polyamide 12
Cast Nylons Ltd.

Message:

NYCAST® 12, manufactured by Cast Nylons Limited, is the only cast nylon 12 material manufactured in North America. NYCAST® 12 gives engineers yet another superior choice from the NYCAST® family of premium grade cast nylons.

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
- lower thermal expansion

Typical applications include:

- Wheels
- Rollers
- Bearings & Bushings
- Gears
- Valve Seals

Specify NYCAST® 12 for applications in industries such as:

- Power Transmission
- Amusement Park Rides
- Valve and Seal Manufacturers
- Food processing
- Marine

General Information			
Features	Good Dimensional Stability		
	Good Thermal Stability		
	Good Wear Resistance		
	High Impact Resistance		
	Low Moisture Absorption		
	Self Lubricating		
Uses	Marine Applications		
	Rollers		
	Seals		
	Valves/Valve Parts		
	Wheels		
Forms	Preformed Parts		
Processing Method	Casting		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.03	g/cm³	ASTM D792
Water Absorption			ASTM D570
	24 hr	0.10	%

Saturation	0.70	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	108		ASTM D785
Durometer Hardness (Shore D)	76		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1590	MPa	ASTM D638
Tensile Strength	54.5	MPa	ASTM D638
Tensile Elongation (Break)	> 50	%	ASTM D638
Flexural Modulus	1640	MPa	ASTM D790
Flexural Strength	62.1	MPa	ASTM D790
Compressive Modulus	1540	MPa	ASTM D695
Compressive Strength	68.9	MPa	ASTM D695
Shear Strength	42.1	MPa	ASTM D732
Coefficient of Friction (vs. Itself - Dynamic)	0.20 to 0.30		ASTM D1894
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	160	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	173 to 177	°C	
1.8 MPa, Unannealed	50.0 to 52.2	°C	
Continuous Use Temperature	121	°C	ASTM D794
Melting Temperature	177	°C	
CLTE - Flow	9.9E-5	cm/cm/°C	ASTM D696
Service Temperature - Intermittent	149	°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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