NYLACAST POM-C

PROPERTY	TEST METHOD	NOTES	UNITS	METRIC
GENERAL				
Colour	-	-	-	Natural, Black
Density	ISO 1183	DIN 53479	g/cm^3	1.41
Water absorption in air 50% r.h.	ISO 62	DIN 53715	%	0.2
Absorption 23°C in water-saturation	ISO 62	DIN 53495	%	0.65
MECHANICAL				
Tensile Strength at Yield	ISO 527-1/2:1993	Sample Type 1B, 50mm/min	MPa	75-80
Elongation at Break	ISO 527-1/2:1993	Sample Type 1B, 50mm/min	MPa	3800-4000
Tensile Modulus of elasticity	ISO 527-1/2:1993	Sample Type 1B, 50mm/min	%	>20
Compression test 1% strain 1000h	ISO 604:2002	Sample Type B, 5mm/min	MPa	105
Impact strength Charpy 7, 5 J	ISO 604:2002	Sample Type A, 1mm/min	MPa	2500-2700
Notched impact strength Charpy	ISO 178:2001	1.5mm/min	MPa	100-110
Ball Indentation hardness	ISO 178:2001	1.5mm/min	MPa	3000-3200
Rockwell hardness (dry)	ISO 180:2000	Sample Type A (notched)	kJ/mm^2	5.5-7.0
Coefficient of friction to steel	-	31.4m/min, 1.75MPa	-	0.101
THERMAL				
Melting point	ISO 3146	-	°C	165
Thermal conductivity	ISO 22007.2	DIN 52612	1.80MPa	0.3
Deformation at temperature HDT	ISO 75	DIN 53461	°C	95
Linear expansion coefficient 23°- 60°C	ISO 11359	DIN 53752	K^{-1}	120 x 10^{-6}
Operating temperature continuously	-	-	°C	100
Operating temperature short period - no load	-	-	°C	140
Minimum operating temperature	-	-	°C	-50
Flammability UL 94 (3-6mm thickness)	-	UL94	HB	-
Oxygen index (LOI)	ISO 4589	DIN 22117	%	15
ELECTRICAL				
Dielectric Constant at 1 MHz	ISO 250	DIN 53483	-	3.7 & 4
Dielectric Strength	ISO 243	DIN 53481	-	0.11
Volume Resistivity	ISO 93	DIN 53482	kV/m	25
Dissipation factor tan ▲ at 1MHz	ISO 250	DIN 53483	Ω.m	>1x10^{13}

PRODUCT AVAILABILITY

Rod	10mm-500mm DIA
Tube	50mm-1500mm OD
Plate	8mm-100mm Thickness
Custom Castings	Bespoke
Cut to size	Available upon request

NOTES

- Mechanical properties of semi-finished products are highly dependent on degree of crystallinity (due to nucleation by additives and pigments), part geometry and dimensions. The value of actual mechanical properties of products may differ from the values listed.
- In the case of Polyamides, mechanical properties change due to the absorption of moisture. The rate and extent of these changes are therefore contingent on the surrounding atmosphere, ambient temperature and humidity, and duration of exposure. Property changes due to the influence of moisture absorption are primarily limited to a region beginning at the surface of the material and extending within to a certain depth. Part wall thickness can therefore influence the proportion of the material affected. This is also the case for mechanical property changes resulting from exposure to high temperatures in which the polymer undergoes thermal ageing by oxidation.
- All data and information contained in this datasheet supersedes any previously published or historical data. Decisions or outcomes arising from the use of outdated or superseded information is fully unsupported.
- As such, the information stated previously is intended to serve as a guide to aid in material selection and does not guarantee specific properties or the suitability of a material for a particular application. No warranties or representations are given in respect of the foregoing information.