

NYLACAST PA 6 NATURAL

PROPERTY	TEST METHOD	NOTES	METRIC	UNITS	IMPERIAL	UNITS
GENERAL						
Colour	-	-	-	Natural, Black	-	Natural, Black
Density	ISO 1183:1997	Test Method A	g/cm ³	1.141	lb/inch10 ³	0.042
Moisture Absorption (Equilibrium)	ISO 62:1999 (modified)	50% RH, 23°C	%	2.5	%	2.5
Water Absorption @24 hrs	ISO 62:1999 (modified)	Immersion @ 23°C	%	0.3	%	0.3
Water Absorption @24 hrs Saturation	ISO 62:1999	Immersion @ 23°C	%	7	%	7
MECHANICAL						
Tensile Strength at Yield	ISO 527-1/2:1993	Sample Type 1B, 50mm/min	MPa	75-80	psi	11.6k
E-modulus	ISO 527-1/2:1993	Sample Type 1B, 50mm/min	MPa	3400-3600	psi	580k
Elongation at Break	ISO 527-1/2:1993	Sample Type 1B, 50mm/min	%	>20	%	>20
Compressive Strength	ISO 604:2002	Sample Type B, 5mm/min	MPa	95-120	psi	13.8k
Compressive Modulus	ISO 604:2002	Sample Type A, 1mm/min	MPa	2100-2700	psi	392k
Flexural Strength	ISO 178:2001	1.5mm/min	MPa	105-125	psi	15.3k
Flexural Modulus	ISO 178:2001	1.5mm/min	MPa	3300-3600	psi	478k
Izod Impact Strength	ISO 180:2000	Sample Type A (notched)	kJ/mm ²	4.5-6.0	ft.lb/in10 ⁻²	2.9
Dynamic Coefficient of Friction	-	31.4m/min, 1.75MPa	-	0.16	-	0.16
Limiting PV	-	-	MPa/m	100	psi.ft/min	2.9k
K-Factor (wear factor)	-	31.4m/min, 1.75MPa	mm ³ /Nm	4.3x10 ⁻⁵	-	2.4x10 ⁻⁴
Hardness (Shore D)	ISO 868: 2003	Scale D	Shore D	83	Shore D	83
THERMAL						
Melting Temperature, Tg	-	-	°C	223	°F	433
Glass Transition Temperature	ISO 11359:1999	-	°C	65	°F	149
Heat Deflection Temperature, HDT/A	ISO 75	1.80MPa	°C	75	°F	167
Maximum/Minimum Continuous Service Temperatures	-	-	°C	100/-40	°F	212/-40
Maximum/Minimum Intermittent Service Temperatures	-	-	°C	170/-100	°F	338/-148
Coefficient of Linear Thermal Expansion	ISO 11359-2:1999	23-55°C	°C ⁻¹	8x10 ⁻⁵	°F	4.4x10 ⁻⁵
Thermal Conductivity	ISO 8301:1991	Mean T = 20°C	W/moC	0.26	°F	0.15
Flammability	IEC 60695-11-10:2003-08	-	-	HB	-	HB
ELECTRICAL						
Dielectric Constant	IEC 60250:1969-01	1 & 100 Hz	-	3.7 & 4	-	3.7 & 4
Dissipation Factor	IEC 60250:1969-01	100 Hz	-	0.02	-	0.02
Dielectric Strength	IEC 60243-1:1998-01	-	kV/m	25	kV/in	635
Volume Resistivity	IEC 60093:1980-01	-	Ω.m	>1x10 ¹³	Ω.m	4x10 ¹⁴
Surface Resistivity	IEC 60093:1980-01	-	Ω.m	>1x10 ¹²	Ω.m	>1x10 ¹²
Comparative Tracking Index	IEC 60112:2003-01	-	CTI	600	CTI	600
FDA Compatibility						
				YES	YES	

PRODUCT AVAILABILITY

Rod	10mm-500mm DIA
Tube	50mm-1000mm OD
Plate	6mm-100mm Thickness
Custom Castings	Bespoke
Cut to size	Available upon request

NOTES

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