VIVA | NYLONS

Material Data

PA6C

(+PA6-COL)

This unmodified grade of cast nylon 6, produced by an anionic polymerisation casting process, demonstrates similar characteristics to PA66. Cast nylon shapes contain significantly lower stress levels, combined with high strength, good creep and wear resistance result in greater dimensional accuracy when machining.

PROPERTY	TEST METHOD	NOTES	METRIC UNITS		IMPERIAL UNITS	
GENERAL						
Colour					Natural / Black / Others	
Density	ISO1183:1987	Test Method A	g/cm³	1.145	lb/inch³	0.041
Moisture Absorption (Equilibrium)	ISO 62:1999	50% RH, 23C	%	-	%	-
Water Absorption (24 Hours)	ISO 62:1999 (modified)	Immersion, 23C	%	0.3	%	0.3
Water Absorption (Saturation)	ISO 62:1999	Immersion, 23C	%	7.0	%	7.0
MECHANICAL						
Tensile strength	ISO 527-1/2:1993	Sample Type 1B, 50mm min^{-1}	MPa	80	psi	11603
E-modulus	ISO 527-1/2:1993	Sample Type 1B, 50mm min^{-1}	MPa	4000	psi	580152
Elongation at break	ISO 527-1/2:1993	Sample Type 1B, 50mm min^{-1}	%	>20	%	>20
Compressive Strength	ISO 604:2002	Sample Type B, 5mm min^{-1}	MPa	95	psi	13779
Compressive Modulus	ISO 604:2002	Sample Type A, 1mm min^{-1}	MPa	2700	psi	391603
Flexural Strength*	ISO 178:2001	1.5mm min^{-1}	MPa	105	psi	15229
Flexural Modulus	ISO 178:2001	1.5mm min^{-1}	MPa	3300	psi	478626
Izod Impact Strength	ISO 180:2000	Sample Type A (Notched)	KJ/m²	5.6	ft.lb/in²	2.66
Charpy Impact Strength	ISO 179-2:1999	Notched	KJ/m²	-	ft.lb/in²	-
Hardness (Shore D)	ISO 868:2003	-	-	84	-	84
Coefficient of Friction (Dynamic)	-	31.4m/min, 1.75MPa	-	0.30	-	0.30
Limiting PV	-	-	MPa/m.min	-	psi.ft/min	-
Wear Rate	-	31.4m/min, 1.75MPa	mg/km	0.44	-	-
K-Factor	-	31.4m/min, 1.75MPa	mm^3/Nm	4.3×10^{-5}	$in^3.min./ft.lb.hr$	2.4×10^{-4}
THERMAL						
Melting Temperature	-	-	˚C	220	˚F	428
Glass Transition Temperature (Tg)	ISO 11359-2:1999	-	˚C	65	˚F	149
Heat Deflection Temperature HDT/A	ISO 75	1.80MPa	˚C	75	˚F	167
Heat Deflection Temperature HDT/B	ISO 75	0.45MPa	˚C	-	˚F	-
Maximum Intermittent Service Temperature	-	-	˚C	170	˚F	338
Maximum Continuous Service Temperature	-	5000hrs	˚C	100	˚F	212
Minimum Intermittent Service Temperature	-	-	˚C	-100	˚F	-148
Minimum Continuous Service Temperature	-	-	˚C	-40	˚F	-40
Coefficient of Linear Thermal Expansion (TMA)	ISO 11359-2:1999	23˚C - 55˚C	$˚C^{-1}$	8×10^{-5}	$˚F^{-1}$	4.44×10^{-5}
Thermal Conductivity	ISO 8301:1991	Mean T = 20˚C	W/m.˚C	0.26	BTU in/ft.hr.˚F	0.15
Flammability	IEC 60695-11-10:2003-08	-	-	HB	-	HB
ELECTRICAL						
Dielectric Constant	IEC 60250:1969-01	1MHz	-	3.7	-	3.7
Dielectric Constant (Low Frequency)	-	100Hz	-	4	-	4
Dissipation Factor	IEC 60250:1969-01	100Hz	Hz	-	Hz	-
Dielectric Strength	IEC 60243-1:1998-01	-	kV/mm	25	kV/in	635
Volume Resistivity	IEC 60093:1980-01	-	ohm.m	1×10^{13}	ohm.in	3.93×10^{14}
Surface Resistivity ROA	IEC 60093:1980-01	-	ohm	1×10^{12}	ohm	1×10^{12}
Comparative Tracking Index	IEC 60112:2003-01		CTI	600	CTI	600
AVAILABILTY						

ROD: 10 mm Ø → 500 mm Ø 

PLATE: 8 mm = → 100 mm = 

TUBE: 50 mm Ø → 1500 mm Ø 

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