

# Nylacast Aquanyl PA 612 C Copolymer

PROPERTY	TEST METHOD	NOTES	METRIC	UNITS	IMPERIAL	UNITS
<b>GENERAL</b>						
Colour				Natural/ Yellow		Natural/ Yellow
Density	ISO1183:1987	Test Method A	g/cm <sup>3</sup>	1.140	lb/inch <sup>3</sup>	0.041
Moisture Absorption (Equilibrium)	ISO 62:1999	50% RH, 23C	%	-	%	-
Water Absorption (24 Hours)	ISO 62:1999(modified)	Immersion, 23C	%	0.20	%	0.20
Water Absorption (Saturation)	ISO 62:1999	Immersion, 23C	%	5.00	%	5.00
<b>MECHANICAL</b>						
Tensile strength	ISO 527-1/2:1993	Sample Type 1B, 50mm min <sup>-1</sup>	MPa	75	psi	10878
E-modulus	ISO 527-1/2:1993	Sample Type 1B, 50mm min <sup>-1</sup>	MPa	3700	psi	536641
Elongation at break	ISO 527-1/2:1993	Sample Type 1B, 50mm min <sup>-1</sup>	%	>30	%	>30
Compressive strength	ISO 604:2002	Sample Type B, 5mm min <sup>-1</sup>	MPa	90	psi	13053
Compressive Modulus	ISO 604:2002	Sample Type A, 1mm min <sup>-1</sup>	MPa	2000	psi	290076
Flexural Strength*	ISO 178:2001	1.5mm min <sup>-1</sup>	MPa	95	psi	13779
Flexural Modulus	ISO 178:2001	1.5mm min <sup>-1</sup>	MPa	2700	psi	391603
Izod Impact Strength	ISO 180:2000	Sample Type A (Notched)	kJ/m <sup>2</sup>	6.50	ft.lb/in <sup>2</sup>	3.09
Charpy Impact Strength	ISO 179-2:1999	Notched	kJ/m <sup>2</sup>	-	ft.lb/in <sup>2</sup>	-
Hardness (Shore D)	ISO 868: 2003			80		80
Coefficient of Friction (Dynamic)		31.4m/min, 1.75MPa		-		-
Limiting PV			Mpa/m.min	-	psi.ft/ min	-
Wear Rate		31.4m/min, 1.75MPa	mg/km	-		-
K-Factor		31.4m/min, 1.75MPa	mm <sup>2</sup> /Nm	-	in <sup>3</sup> min/ ft.lb.hr	-
<b>THERMAL</b>						
Melting Temperature	-		°C	215	°F	419
Glass Transition Temperature (Tg)	ISO 11359-2:1999		°C	-	°F	-
Heat Deflection Temperature HDT/A	ISO 75	1.80MPa	°C	-	°F	-
Heat Deflection Temperature HDT/B	ISO 75	0.45MPa	°C	-	°F	-
Maximum Intermittent Service Temperature	-		°C	160	°F	320
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 Mean T = 20°C	°C <sup>-1</sup>	8 x 10 <sup>-5</sup>	°F <sup>-1</sup>	4.72 x 10 <sup>-5</sup>
Thermal Conductivity	ISO 8301:1991		W/m°C	-	BTU in/ ft.hr°F	
Flammability	IEC 60695-11-10:2003-08		-	HB	-	HB
<b>ELECTRICAL</b>						
Dielectric Constant	IEC 60250:1969-01	1 MHz		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	1x10 <sup>13</sup>	ohm.m	3.93x10 <sup>14</sup>
Surface Resistivity ROA	IEC 60093:1980-01		ohm	1 x 10 <sup>12</sup>	ohm	1 x 10 <sup>12</sup>
Comparative Tracking Index	IEC 60112:2003-01		CTI	600	CTI	600

**PRODUCT AVAILABILITY**

Rod	10mm-500mm DIA
Tube	50mm-1000mm OD
Plate	8mm-100mm THICKNESS
Custom Castings	Bespoke
Cut to size	Available upon request

**NOTES**

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