




# PA CP612

PA CP612 is a copolymer of nylon 6 and nylon 12 produced by anionic polymerisation of caprolactam and laurilactam. The copolymer makeup gives the product a greater degree of material resilience, reduces moisture absorption and greatly improved impact resistance.

PROPERTY	TEST METHOD	NOTES	METRIC UNITS		IMPERIAL UNITS	
<b>GENERAL</b>						
Colour			Natural / Yellow		Natural / Yellow	
Density	ISO 1183:1987	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>3</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	°C <sup>-1</sup>	8.5 x 10 <sup>-5</sup>	°F <sup>-1</sup>	4.72 x 10 <sup>-5</sup>
Thermal Conductivity	ISO 8301:1991	Mean T = 20°C	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	1MHz	-	3.7	-	3.7
Dielectric Constant (Low Frequency)	-	100Hz	-	4	-	4
Dissipation Factor	IEC 60250:1969-01	100 Hz	Hz	-	Hz	-
Dielectric Strength	IEC 60243-1:1998-01	-	kV/mm	25	kV/in	635
Volume Resistivity	IEC 60093:1980-01	-	ohm.m	1 x 10 <sup>13</sup>	ohm.in	3.93 x 10 <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
<b>AVAILABILITY</b>						
ROD: 10mm - 500mm DIA		All information contained in this literature corresponds with our current knowledge of the products. Global EPP assume no liability whatsoever in respect of application, conversion or use made of the aforementioned information or products, or any consequence thereof. The buyer undertakes all liability in respect of the application, conversion or use of the aforementioned information or products. Existing intellectual property rights must be observed and Global EPP reserve the right to make technical alterations.				
PLATE: 6mm - 120mm THICK						
TUBE: 45mm - 1500mm						



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