



CYCOLOY™ Resin CY6414

Americas: COMMERCIAL

Flame retardant modified PC using non-brominated and non-chlorinated flame retardant systems, offering high heat for application in appliances, lighting and electrical market.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	650	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	630	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	85	%	ASTM D 638
Tensile Modulus, 5 mm/min	23700	kgf/cm ²	ASTM D 638
Tensile Strain, yield, 50 mm/min	5.7	%	ISO 527
Tensile Strain, break, 50 mm/min	>100	%	ISO 527
IMPACT			
Izod Impact, notched, 23°C	81	cm-kgf/cm	ASTM D 256
Izod Impact, notched, 0°C	53	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	21	cm-kgf/cm	ASTM D 256
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	28	kJ/m ²	ISO 179/1eA
Charpy 0°C, V-notch Edgew 80*10*3 sp=62mm	17	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	12	kJ/m ²	ISO 179/1eA
THERMAL			
HDT, 1.82 MPa, 6.4 mm, unannealed	118	°C	ASTM D 648
CTE, -40°C to 40°C, flow	7.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	Pass	-	IEC 60695-10-2
Ball Pressure Test, 125°C +/- 2°C, by VDE	Pass	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	133	°C	ISO 306
Vicat Softening Temp, Rate B/120	134	°C	ISO 306
PHYSICAL			
Melt Flow Rate, 260°C/5.0 kgf	14	g/10 min	ASTM D 1238



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PHYSICAL			
Density	1.18	g/cm ³	ISO 1183
ELECTRICAL			
Relative Permittivity, 1 kHz	3.01	-	ASTM D 150
Relative Permittivity, 1 MHz	2.95	-	ASTM D 150
Dissipation Factor, 1 kHz	0.0017	-	ASTM D 150
Dissipation Factor, 1 MHz	0.0088	-	ASTM D 150
Hot Wire Ignition {PLC}	2	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	1	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Surface Resistivity, ROA	4.E+16 - 0.E+00	Ohm	IEC 60093
Dissipation Factor, 1 MHz	0.008	-	IEC 60250
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	1.2	mm	UL 94
UL Recognized, 94-5VB Rating (3)	2.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at, by VDE	0.75	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 0.75 mm, by VDE	775	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm, by VDE	775	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm, by VDE	775	°C	IEC 60695-2-13
Oxygen Index (LOI)	32	%	ISO 4589



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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	90 - 100	°C
Drying Time	2 - 4	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	250 - 300	°C
Nozzle Temperature	230 - 290	°C
Front - Zone 3 Temperature	240 - 300	°C
Middle - Zone 2 Temperature	230 - 290	°C
Rear - Zone 1 Temperature	210 - 260	°C
Hopper Temperature	60 - 80	°C
Mold Temperature	60 - 90	°C