

CYCOLOY™ FR RESIN CY6110

REGION ASIA

DESCRIPTION

CYCOLOY CY6110 Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) resin is a hydrolytically stable, impact modified grade that can be injection molded. This non-chlorinated, non-brominated flame retardant PC/ABS has a UL V0 & 5VB flame rating. CYCOLOY CY6110 resin is an excellent candidate for a wide variety of large size of applications including appliances, lighting, electrical and enclosures.

TYPICAL PROPERTY VALUES

Revision 20171213

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	63	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	47	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	4.1	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	65	%	ASTM D 638
Tensile Modulus, 5 mm/min	2760	MPa	ASTM D 638
Tensile Stress, yield, 50 mm/min	63	MPa	ISO 527
Tensile Stress, break, 50 mm/min	46	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	35	%	ISO 527
Tensile Modulus, 1 mm/min	2750	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	94	MPa	ISO 178
Flexural Modulus, 2 mm/min	2440	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	475	J/m	ASTM D 256
Izod Impact, notched, -30°C	100	J/m	ASTM D 256
Izod Impact, notched 80*10*3 +23°C	45	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	10	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 +23°C	25	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	12	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	45	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	10	kJ/m ²	ISO 179/1eA
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	33	kJ/m ²	ISO 179/1eA
THERMAL			

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, flow	8.E+00	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.E+00	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	PASS	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	104	°C	ISO 306
Vicat Softening Temp, Rate B/120	106	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	98	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	88	°C	ISO 75/Af
Relative Temp Index, Elec	85	°C	UL 746B
Relative Temp Index, Mech w/impact	85	°C	UL 746B
Relative Temp Index, Mech w/o impact	85	°C	UL 746B
PHYSICAL			
Mold Shrinkage, flow, 3.2 mm (5)	0.4 – 0.6	%	SABIC method
Density	1.18	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.6	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.2	%	ISO 62
Melt Volume Rate, MVR at 260°C/2.16 kg	23	cm ³ /10 min	ISO 1133
ELECTRICAL			
Hot Wire Ignition {PLC}	3	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
Volume Resistivity	1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	1.E+15	Ohm	IEC 60093
Dielectric Strength, in oil, 0.8 mm	46	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	31	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.9	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.002	-	IEC 60250
Dissipation Factor, 1 MHz	0.007	-	IEC 60250
Relative Permittivity, 50/60 Hz	2.9	-	IEC 60250
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	1.5	mm	UL 94
UL Recognized, 94-5VB Rating (3)	2.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	1	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.0 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	825	°C	IEC 60695-2-13
Oxygen Index (LOI)	31	%	ISO 4589
INJECTION MOLDING			
Drying Temperature	80 – 90	°C	
Drying Time	2 – 4	hrs	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Maximum Moisture Content	0.02	%	
Melt Temperature	250 – 300	°C	
Nozzle Temperature	250 – 300	°C	
Front - Zone 3 Temperature	250 – 300	°C	
Middle - Zone 2 Temperature	240 – 290	°C	
Rear - Zone 1 Temperature	230 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	60 – 85	°C	
Vent Depth	0.03 - 0.075	mm	

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