CYCOLOY™ FR RESINS CY6310

REGION ASIA

DESCRIPTION

CYCOLOY CY6310 Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) blend is an impact modified, high flow and heat resistant, injection moldable, non chlorinated/brominated flame retardant grade. It has a UL94 V0@1.5mm, 5VA@2.9 and 5VB@2.3mm flame rating. This grade is an excellent candidate for a variety of large size applications.

TYPICAL PROPERTY VALUES

Revision 20200212

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	50	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	4.2	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	>50	%	ASTM D 638
Tensile Modulus, 5 mm/min	2700	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	101	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2700	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	63	MPa	ISO 527
Tensile Stress, break, 50 mm/min	51	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4.4	%	ISO 527
Tensile Strain, break, 50 mm/min	>50	%	ISO 527
Tensile Modulus, 1 mm/min	2700	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	91	MPa	ISO 178
Flexural Modulus, 2 mm/min	2650	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	600	J/m	ASTM D 256
Izod Impact, notched, -30°C	115	J/m	ASTM D 256
Multiaxial Impact	105	J	ISO 6603
Instrumented Impact Total Energy, 23°C	65	J	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	50	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	13	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	55	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	14	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate B/50	109	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	100	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	88	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.8E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	6.8E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ISO 11359-2

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Ball Pressure Test, 100°C +/- 2°C	PASS	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	109	°C	ISO 306
Vicat Softening Temp, Rate B/120	111	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	90	°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			
Specific Gravity	1.17	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.4 – 0.6	%	SABIC method
Melt Flow Rate, 250°C/2.16 kgf	16	g/10 min	ASTM D 1238
Melt Flow Rate, 260°C/2.16 kgf	20	g/10 min	ASTM D 1238
Density	1.17	g/cm³	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	19	cm³/10 min	ISO 1133
ELECTRICAL			
Hot Wire Ignition {PLC)	3	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Volume Resistivity	>1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ohm	IEC 60093
Comparative Tracking Index	575	V	IEC 60112
FLAME CHARACTERISTICS			
UL Compliant, 94V-2 Flame Class Rating	0.75	mm	UL 94 by SABIC-IP
UL Compliant, 94V-0 Flame Class Rating	1.5	mm	UL 94 by SABIC-IP
UL Compliant, 94-5VA Rating	2.9	mm	UL 94 by SABIC-IP
UL Compliant, 94-5VB Rating	2.3	mm	UL 94 by SABIC-IP
UL Recognized, 94V-2 Flame Class Rating	0.75	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	1.5	mm	UL 94
UL Recognized, 94-5VA Flame Class Rating	2.9	mm	UL 94
UL Recognized, 94-5VB Flame Class Rating	2.3	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	3	mm	IEC 60695-2-12
Oxygen Index (LOI)	30	%	ISO 4589
INJECTION MOLDING			
Drying Temperature	90 – 100	°C	
Drying Time	2 – 4	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	250 – 280	°C	
Nozzle Temperature	230 – 270	°C	
Front - Zone 3 Temperature	240 – 280	°C	
Middle - Zone 2 Temperature	230 – 270	°C	
Rear - Zone 1 Temperature	210 – 240	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	60 – 90	°C	

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