CYCOLOY™ FR RESINS CM6140

REGION ASIA

DESCRIPTION

CYCOLOY CM6140 Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) blend is an injection moldable, non chlorinated/brominated mineral-filled flame retardant grade. It features high modulus, good flow, ductility and low warpage. It has a UL94 V0@0.8mm and 5VB@1.5mm flame rating and is a good candidate for thin wall applications.

TYPICAL PROPERTY VALUES

Revision 20190924

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	65	MPa	ASTM D 638
Tensile Stress, yld, Type I, 5 mm/min	65	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	50	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	4	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	100	%	ASTM D 638
Tensile Modulus, 5 mm/min	3500	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	100	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	3300	MPa	ASTM D 790
Tensile Stress, break, 5 mm/min	50	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.5	%	ISO 527
Tensile Strain, break, 50 mm/min	15	%	ISO 527
Tensile Modulus, 1 mm/min	3200	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	97	MPa	ISO 178
Flexural Modulus, 2 mm/min	3450	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	200	J/m	ASTM D 256
Izod Impact, notched, -30°C	88	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	50	J	ASTM D 3763
Izod Impact, notched 80*10*3 +23°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	5	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	10	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	5	kJ/m²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	91	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	83	°C	ASTM D 648
HDT, 0.45 MPa, 6.4 mm, unannealed	97	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	89	°C	ASTM D 648
CTE, -40°C to 40°C, flow	5.5E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	5.5E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	98	°C	ISO 306

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temp, Rate B/120	102	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	80	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.26	-	ASTM D 792
Water Absorption, 24 hours	0.1	%	ASTM D 570
Moisture Absorption, 50% RH, 24 hrs	0.01	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.3 – 0.5	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.4 – 0.6	%	SABIC method
Melt Flow Rate, 260°C/2.16 kgf	17.5	g/10 min	ASTM D 1238
Density	1.25	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.09	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.01	%	ISO 62
Melt Volume Rate, MVR at 220°C/5.0 kg	14	cm³/10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	2.68E+16	Ohm-cm	ASTM D 257
Surface Resistivity	3.54E+15	Ohm	ASTM D 257
FLAME CHARACTERISTICS			
UL Recognized, 94V-1 Flame Class Rating	0.6	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	0.8	mm	UL 94
UL Recognized, 94-5VB Flame Class Rating	1.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	0.8	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	850	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	800	°C	IEC 60695-2-13
INJECTION MOLDING			
Drying Temperature	90	°C	
Drying Time	>4	hrs	
Maximum Moisture Content	0.04	%	
Melt Temperature	275 – 300	°C	
Nozzle Temperature	280 – 300	°C	
Front - Zone 3 Temperature	280 – 300	°C	
Middle - Zone 2 Temperature	275 – 300	°C	
Rear - Zone 1 Temperature	275 – 300	°C	
Mold Temperature	60 – 80	°C	

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