CYCOLOY™ FR RESINS CE3510

REGION EUROPE

DESCRIPTION

CYCOLOY CE3510 Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) blend is a high impact, non chlorinated/brominated flame retardant grade that can be injection molded or extruded. It has an MVR (260°C/5kg) of 8 and a UL94 V0@1.5mm flame rating.

TYPICAL PROPERTY VALUES

Revision 20191031

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	64	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	49	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	4.3	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	35	%	ASTM D 638
Tensile Modulus, 50 mm/min	2680	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	95	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2610	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	65	MPa	ISO 527
Tensile Stress, break, 50 mm/min	50	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4.6	%	ISO 527
Tensile Strain, break, 50 mm/min	>50	%	ISO 527
Flexural Stress, yield, 2 mm/min	95	MPa	ISO 178
Flexural Modulus, 2 mm/min	2470	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	664	J/m	ASTM D 256
Izod Impact, notched, -30°C	109	J/m	ASTM D 256
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	20	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	14	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	12	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	45	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	14	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
THERMAL			
HDT, 0.45 MPa, 3.2 mm, unannealed	111	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	100	°C	ASTM D 648
Ball Pressure Test, 75°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	116	°C	ISO 306
Vicat Softening Temp, Rate B/120	118	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	111	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	100	°C	ISO 75/Ae
Relative Temp Index, Elec	90	°C	UL 746B

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Relative Temp Index, Mech w/impact	90	°C	UL 746B
Relative Temp Index, Mech w/o impact	90	°C	UL 746B
PHYSICAL			
Mold Shrinkage on Tensile Bar, flow	0.4 – 0.6	%	SABIC method
Mold Shrinkage on Tensile Bar, xflow	0.4 – 0.6	%	SABIC method
Specific Gravity	1.2	-	ASTM D 792
Density	1.21	g/cm³	ISO 1183
Melt Volume Rate, MVR at 260°C/5.0 kg	8	cm³/10 min	ISO 1133
ELECTRICAL			
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Dielectric Strength, in oil, 0.8 mm	44	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	27	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	18	kV/mm	IEC 60243-1
Comparative Tracking Index	225	V	IEC 60112
FLAME CHARACTERISTICS			
UL Recognized, 94V-2 Flame Class Rating	0.75	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	1.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	3	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	825	°C	IEC 60695-2-13
INJECTION MOLDING			
Drying Temperature	80 – 90	°C	
Drying Time	3 – 4	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	250 – 280	°C	
Nozzle Temperature	250 – 280	°C	
Front - Zone 3 Temperature	250 – 280	°C	
Middle - Zone 2 Temperature	245 – 275	°C	
Rear - Zone 1 Temperature	240 – 270	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	60 – 80	°C	
PROFILE EXTRUSION			
Drying Temperature	80 – 85	°C	
Drying Time	2 – 4	hrs	
Melt Temperature	230 – 270	°C	
Barrel - Zone 1 Temperature	235 – 260	°C	
Barrel - Zone 2 Temperature	240 – 265	°C	
Barrel - Zone 3 Temperature	245 – 270	°C	
Barrel - Zone 4 Temperature	245 – 270	°C	
Hopper Temperature	60 – 80	°C	
Adapter Temperature	245 – 270	°C	
Die Temperature	235 – 260	°C	
Calibrator Temperature	60 – 80	°C	

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