CYCOLOY™ FR RESINS CM6210

REGION AMERICAS

DESCRIPTION

CYCOLOY CM6210 Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) blend is a high impact, non chlorinated/brominated mineral filled flame retardant grade that can be injection molded or extruded. It has an MVR (300°C/1.2kg) of 8 and a UL94 V0@1.5mm flame rating.

TYPICAL PROPERTY VALUES

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	64	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	4.9	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	80	%	ASTM D 638
Tensile Modulus, 5 mm/min	3570	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	110	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	3500	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	59	MPa	ISO 527
Tensile Stress, break, 5 mm/min	65	MPa	ISO 527
Tensile Stress, yield, 50 mm/min	63	MPa	ISO 527
Tensile Stress, break, 50 mm/min	50	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.6	%	ISO 527
Tensile Strain, break, 5 mm/min	101	%	ISO 527
Tensile Strain, yield, 50 mm/min	3.5	%	ISO 527
Tensile Strain, break, 50 mm/min	97	%	ISO 527
Tensile Modulus, 1 mm/min	3660	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	106	MPa	ISO 178
Flexural Modulus, 2 mm/min	3560	MPa	ISO 178
Hardness, Rockwell R	98	-	ISO 2039-2
IMPACT			
Izod Impact, notched, 23°C	500	J/m	ASTM D 256
Izod Impact, notched, -30°C	90	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	45	J	ASTM D 3763
Izod Impact, notched 80*10*3 +23°C	45	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	10	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	45	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	10	kJ/m²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	106	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	90	°C	ASTM D 648
CTE, -40°C to 40°C, flow	5.7E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ASTM E 831
Thermal Conductivity	0.3	W/m-°C	ISO 8302
CTE, -40°C to 40°C, flow	5.2E-05	1/°C	ISO 11359-2

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, flow	5.2E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	6.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	pass	-	IEC 60695-10-2
Ball Pressure Test, approximate maximum	95	°C	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	112	°C	ISO 306
Vicat Softening Temp, Rate B/120	114	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	99	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	89	°C	ISO 75/Ae
Relative Temp Index, Elec	60	°C	UL 746B
Relative Temp Index, Mech w/impact	60	°C	UL 746B
Relative Temp Index, Mech w/o impact	60	°C	UL 746B
PHYSICAL			
Specific Gravity	1.28	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.4 – 0.6	%	SABIC method
Melt Flow Rate, 260°C/5.0 kgf	11.5	g/10 min	ASTM D 1238
Density	1.27	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.3	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Melt Volume Rate, MVR at 260°C/5.0 kg	9	cm³/10 min	ISO 1133
ELECTRICAL			
Dielectric Strength, in oil, 0.8 mm	38	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	26	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	17	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.8	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.003	-	IEC 60250
Dissipation Factor, 1 MHz	0.004	-	IEC 60250
Comparative Tracking Index	250	V	IEC 60112
Relative Permittivity, 50/60 Hz	2.9	-	IEC 60250
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating	1.5	mm	UL 94
SHEET EXTRUSION			
Drying Temperature	80 – 90	°C	
Drying Time	3 – 4	hrs	
Drying Time (Cumulative)	12	hrs	
Minimum Moisture Content	0.04	%	
Melt Temperature	220 – 245	°C	
Barrel - Zone 1 Temperature	180 – 225	°C	
Barrel - Zone 2 Temperature	190 – 230	°C	
Barrel - Zone 3 Temperature	205 – 240	°C	
Barrel - Zone 4 Temperature	210 – 245	°C	
Adapter Temperature	210 – 245	°C	
Die Temperature	210 – 245	°C	
Roll Stack Temp - Top	70 – 100	°C	
Roll Stack Temp - Middle	70 – 95	°C	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Roll Stack Temp - Bottom	65 – 90	°C	