

Cycloloy* Resin CM6210

Americas: COMMERCIAL

Cycloloy* resin CM6210 is a high-modulus flame retardant PC/ABS with non-brominated and non-chlorinated FR system. It can be used for extrusion & thermoforming applications and also for injection molding applications where higher stiffness is needed.

Property

TYPICAL PROPERTIES ⁽¹⁾			
MECHANICAL	Value	Unit	Standard
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	Value	Unit	Standard
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/m ²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	10	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
THERMAL	Value	Unit	Standard
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
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	Value	Unit	Standard
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/cm ³	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	cm ³ /10 min	ISO 1133
ELECTRICAL	Value	Unit	Standard
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, 50/60 Hz	2.9	-	IEC 60250
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
FLAME CHARACTERISTICS	Value	Unit	Standard
UL Recognized, 94V-0 Flame Class Rating (3)	1.5	mm	UL 94

Source GMD, last updated:02/08/2005

Processing

- Barrel temperatures should be banked TO 150°C (300°F)

Parameter	Value	Unit
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
Roll Stack Temp - Bottom	65 - 90	°C

Source GMD, last updated:02/08/2005

- Purge using HIPS or Ultra HDPE.

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours

storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

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