SABIC Innovative Plastics™

Cycoloy* Resin CX7010

Americas: COMMERCIAL

Cycoloy* CX7010 resin is an injection moldable PC/ABS blend. It contains non-brominated and non-chlorinated flame retardant systems to meet UL-94 V0. Excellent flow combined with good balance of properties and all color options make Cycoloy CX7010 an ideal candidate for a wide variety of large size molding, thin wall applications.

Property

TYPICAL PROPERTIES (1)			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 50 mm/min	66	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	45	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	3.4	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	35	%	ASTM D 638
Tensile Modulus, 50 mm/min	2950	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	2850	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	68	MPa	ISO 527
Tensile Stress, break, 50 mm/min	40	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	3.8	%	ISO 527
Tensile Strain, break, 50 mm/min	15	%	ISO 527
Tensile Modulus, 1 mm/min	2750	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	100	MPa	ISO 178
Flexural Modulus, 2 mm/min	2600	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	75	J/m	ASTM D 256
Izod Impact, notched, -30°C	50	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	40	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	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	91	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	74	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	84	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ASTM E 831
Thermal Conductivity	0.2	W/m-°C	ISO 8302
CTE, -40°C to 40°C, flow	7.5E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.5E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	90	°C	ISO 306
Vicat Softening Temp, Rate B/120	95	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	77	°C	ISO 75/Af
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	1.18	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.4 - 0.6	%	SABIC Method
Melt Flow Rate, 260°C/2.16 kgf	22	g/10 min	ASTM D 1238
Density	1.18	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.2	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Melt Volume Rate, MVR at 260°C/2.16 kg	18	cm³/10 min	ISO 1133
ELECTRICAL	Value	Unit	Standard
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
Dielectric Strength, in oil, 0.8 mm	35	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	25	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	17	kV/mm	IEC 60243-1
FLAME CHARACTERISTICS	Value	Unit	Standard
UL Recognized, 94V-0 Flame Class Rating (3)	1.5	mm	UL 94

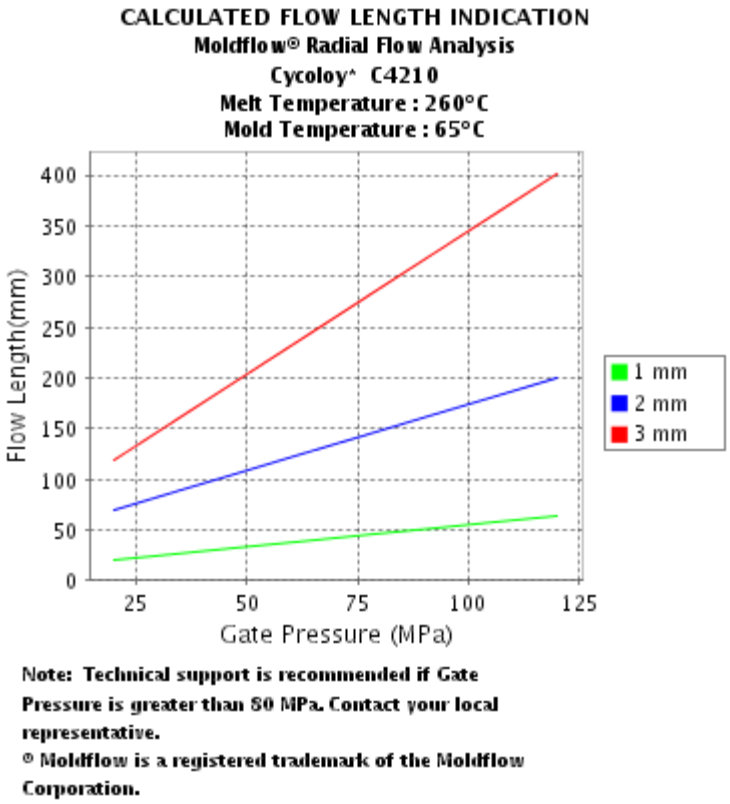
Source GMD, last updated:09/29/2005

Processing

Parameter Injection Molding	Value	Unit
Drying Temperature	75 - 80	°C
Drying Time	2 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.04	%
Melt Temperature	230 - 265	°C
Nozzle Temperature	230 - 265	°C
Front - Zone 3 Temperature	230 - 265	°C
Middle - Zone 2 Temperature	225 - 260	°C
Rear - Zone 1 Temperature	220 - 250	°C
Mold Temperature	60 - 80	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	40 - 70	rpm
Shot to Cylinder Size	30 - 80	%
Vent Depth	0.038 - 0.076	mm

Source GMD, last updated:09/29/2005

• NOTE: Back Pressure, Screw Speed, Shot to Cylinder Size and Vent Depth are only mentioned as general guidelines. These may not apply or need adjustment in specific situations such as low shot sizes, thin wall molding and gas-assist molding.



Note: Technical support is recommended if Gate Pressure is greater than 80 MPa. Contact your local representative.

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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.