SABIC Innovative Plastics™

Cycoloy* Resin CX1440

Americas: COMMERCIAL

CYCOLOY CX1440 is a general purpose PC+ABS blend specially developped for thin wall applications requiring weld line strength and high flow with a good balance of properties

TYPICAL PROPERTIES [1]	TYPICAL VALUE	UNIT	STANDARD
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	500	kgf/cm²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	450	kgf/cm²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	45	%	ASTM D 638
Tensile Modulus, 5 mm/min	24400	kgf/cm²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	810	kgf/cm²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	23400	kgf/cm²	ASTM D 790
Taber Abrasion, CS-17, 1 kg	70	mg/1000cy	SABIC Method
Tensile Stress, yield, 5 mm/min	45	MPa	ISO 527
Tensile Stress, break, 5 mm/min	45	MPa	ISO 527
Tensile Stress, yield, 50 mm/min	50	MPa	ISO 527
Tensile Stress, break, 50 mm/min	45	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	5	%	ISO 527
Tensile Strain, break, 5 mm/min	60	%	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	50	%	ISO 527
Tensile Modulus, 1 mm/min	2400	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	80	MPa	ISO 178
Flexural Modulus, 2 mm/min	2300	MPa	ISO 178
Hardness, Rockwell L	90	-	ISO 2039-2
IMPACT			
Izod Impact, notched, 23°C	45	cm-kgf/cm	ASTM D 256

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TYPICAL PROPERTIES [1]	TYPICAL VALUE	UNIT	STANDARD
IMPACT			
Izod Impact, notched, -30°C	25	cm-kgf/cm	ASTM D 256
Izod Impact, double-gated, 23°C	10	cm-kgf/cm	SABIC Method
Multiaxial Impact	713	cm-kgf	ISO 6603
Instrumented Impact Total Energy, 23°C	560	cm-kgf	ASTM D 3763
Instrumented Impact Total Energy, -30°C	254	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*3 +23°C	40	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	20	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	40	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	20	kJ/m²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	113	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	115	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	95	°C	ASTM D 648
CTE, -40°C to 40°C, flow	7.5E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	7.7E-05	1/°C	ASTM E 831
Thermal Conductivity	0.2	W/m-°C	ASTM C 177
Thermal Conductivity	0.2	W/m-°C	ISO 8302
CTE, -40°C to 40°C, flow	7.1E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.3E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	passes	-	IEC 60695-10-2
Ball Pressure Test, approximate maximum	100	°C	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	114	°C	ISO 306
Vicat Softening Temp, Rate B/120	116	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	117	°C	ISO 75/Be

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TYPICAL PROPERTIES [1]	TYPICAL VALUE	UNIT	STANDARD
THERMAL			
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	95	°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	1.15	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.4 - 0.6	%	SABIC Method
Melt Flow Rate, 260°C/5.0 kgf	22	g/10 min	ASTM D 1238
Density	1.15	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.6	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.16	%	ISO 62
Melt Volume Rate, MVR at 260°C/5.0 kg	20	cm³/10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	> 1.E+15	Ohm-cm	ASTM D 257
Surface Resistivity	> 1.E+15	Ohm	ASTM D 257
Dielectric Strength, in oil, 0.8 mm	36	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	27	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.7	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.01	-	IEC 60250
Dissipation Factor, 1 MHz	0.011	-	IEC 60250
Relative Permittivity, 50/60 Hz	2.9	-	IEC 60250
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating (3)	0.75	mm	UL 94
UL Recognized, 94HB Flame Class Rating 2nd value (3)	3	mm	UL 94
Glow Wire Flammability Index 650°C, passes at	3.2	mm	IEC 60695-2-12

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
Injection Molding		
Drying Temperature	95 - 105	°C
Drying Time	2 - 4	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	260 - 290	°C
Nozzle Temperature	240 - 280	°C
Front - Zone 3 Temperature	250 - 290	°C
Middle - Zone 2 Temperature	250 - 290	°C
Rear - Zone 1 Temperature	230 - 260	°C
Hopper Temperature	60 - 80	°C
Mold Temperature	60 - 90	°C

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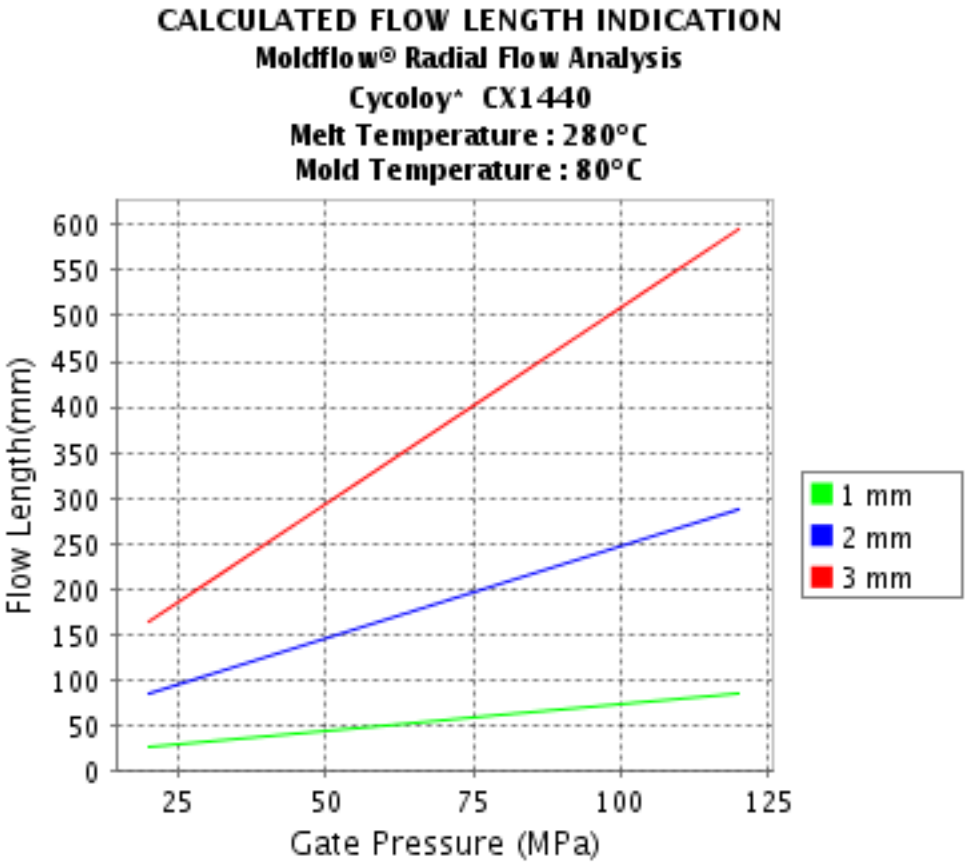

Note: Technical support is recommended if Gate Pressure is greater than 80 MPa. Contact your local representative.

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