CYCOLOY™ Resin CE8510

Americas: COMMERCIAL

Extrusion grade PC/ABS. Low viscosity, high impact and ductility.

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	580	kgf/cm²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	570	kgf/cm²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	4.9	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	125	%	ASTM D 638
Tensile Modulus, 5 mm/min	22100	kgf/cm²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	860	kgf/cm²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	23900	kgf/cm²	ASTM D 790
Tensile Stress, yield, 50 mm/min	50	MPa	ISO 527
Tensile Stress, break, 50 mm/min	45	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	>50	%	ISO 527
Tensile Modulus, 1 mm/min	2250	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	85	MPa	ISO 178
Flexural Modulus, 2 mm/min	2300	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	66	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	54	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	611	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*3 +23°C	50	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	35	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	50	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	35	kJ/m²	ISO 179/1eA

(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.
(5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

Source GMD, last updated:

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TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
THERMAL			
Vicat Softening Temp, Rate B/50	118	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	124	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	107	°C	ASTM D 648
CTE, -40°C to 40°C, flow	7.2E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	7.2E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	118	°C	ISO 306
Vicat Softening Temp, Rate B/120	122	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	120	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.14	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.5 - 0.7	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm (5)	0.5 - 0.7	%	SABIC Method
Melt Flow Rate, 260°C/5.0 kgf	8.5	g/10 min	ASTM D 1238
Density	1.14	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.1	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Melt Volume Rate, MVR at 265°C/5.0 kg	10	cm³/10 min	ISO 1133

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Film Extrusion		
Drying Temperature	90 - 110	°C
Drying Time	4	hrs
Drying Time (Cumulative)	6 - 8	hrs
Maximum Moisture Content	0.04	%
Barrell Temperature - Rear	220 - 250	°C
Barrell Temperature - Middle	220 - 250	°C
Barrell Temperature - Front	220 - 250	°C
Die Temperature	220 - 250	°C
Roll Temperature	200 - 250	°C

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