CYCOLOY™ Resin CY2010

Europe-Africa-Middle East: COMMERCIAL

Flame retardant PC/ABS blend using non-brominated and non-chlorinated flame retardant systems, offering hydrolytic stability and excellent flow for a wide variety of thin wall or large size applications including business equipment, TV enclosures, among others

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	660	kgf/cm²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	480	kgf/cm²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	3.9	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	34	%	ASTM D 638
Tensile Modulus, 5 mm/min	28500	kgf/cm²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	980	kgf/cm²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	26800	kgf/cm²	ASTM D 790
Tensile Stress, yield, 50 mm/min	63	MPa	ISO 527
Tensile Stress, break, 50 mm/min	43	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	3.5	%	ISO 527
Tensile Strain, break, 50 mm/min	40	%	ISO 527
Tensile Modulus, 1 mm/min	2670	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	95	MPa	ISO 178
Flexural Modulus, 2 mm/min	2700	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	9	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	7	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	203	cm-kgf	ASTM D 3763
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m²	ISO 180/1A

(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.
(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

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TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
IMPACT			
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	10	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	5	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
THERMAL			
HDT, 1.82 MPa, 6.4 mm, unannealed	81	°C	ASTM D 648
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
Vicat Softening Temp, Rate B/50	89	°C	ISO 306
Vicat Softening Temp, Rate B/120	92	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	73	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.18	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.4 - 0.6	%	SABIC Method
Melt Flow Rate, 260°C/2.16 kgf	31	g/10 min	ASTM D 1238
Density	1.18	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.1	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.05	%	ISO 62
Melt Volume Rate, MVR at 260°C/2.16 kg	27	cm³/10 min	ISO 1133
FLAME CHARACTERISTICS			
UL Recognized, 94V-2 Flame Class Rating (3)	1	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating (3)	1.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	1	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.0 mm	750	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	725	°C	IEC 60695-2-13

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	75 - 80	°C
Drying Time	2 - 4	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	230 - 270	°C
Nozzle Temperature	220 - 260	°C
Front - Zone 3 Temperature	230 - 270	°C
Middle - Zone 2 Temperature	220 - 260	°C
Rear - Zone 1 Temperature	200 - 230	°C
Hopper Temperature	60 - 80	°C
Mold Temperature	50 - 70	°C

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