CYCOLOY™ Resin C2800
Americas: COMMERCIAL

Non-chlorinated and non-brominated flame retardant PC+ABS offering balanced flow and impact properties for various applications.

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	58	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	50	%	ASTM D 638
Tensile Modulus, 50 mm/min	2680	MPa	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	96	MPa	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	2680	MPa	ASTM D 790
Hardness, Rockwell R	120	-	ASTM D 785
IMPACT			
Izod Impact, notched, 23°C	427	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	58	J	ASTM D 3763
THERMAL			
Vicat Softening Temp, Rate B/50	90	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	73	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	80	°C	ASTM D 648
CTE, -40°C to 60°C, flow	7.2E-05	1/°C	ASTM E 831
CTE, -40°C to 60°C, xflow	7.2E-05	1/°C	ASTM E 831
Thermal Conductivity	0.2	W/m-°C	ASTM C 177
Relative Temp Index, Elec	80	°C	UL 746B
Relative Temp Index, Mech w/impact	70	°C	UL 746B
Relative Temp Index, Mech w/o impact	80	°C	UL 746B
PHYSICAL			
Specific Gravity	1.17	-	ASTM D 792
Specific Gravity, color	1.18	-	ASTM D 792
Water Absorption, 24 hours	0.1	%	ASTM D 570

(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.

Source GMD, last updated:

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TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
PHYSICAL			
Water Absorption, equilibrium, 23C	0.4	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm (5)	0.4 - 0.6	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm (5)	0.4 - 0.6	%	SABIC Method
Melt Flow Rate, 260°C/2.16 kgf	16	g/10 min	ASTM D 1238
ELECTRICAL			
Volume Resistivity	1.E+17	Ohm-cm	ASTM D 257
Surface Resistivity	>1.E+14	Ohm	ASTM D 257
Dielectric Strength, in oil, 3.2 mm	17.9	kV/mm	ASTM D 149
Relative Permittivity, 50/60 Hz	3	-	ASTM D 150
Relative Permittivity, 100 Hz	3	-	ASTM D 150
Dissipation Factor, 50/60 Hz	0.0048	-	ASTM D 150
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	3	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	3	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	1	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94V-2 Flame Class Rating (3)	0.88	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating (3)	1.47	mm	UL 94
UL Recognized, 94-5VB Rating (3)	2.31	mm	UL 94
Oxygen Index (LOI)	35	%	ASTM D 2863

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	75 - 80	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.04	%
Melt Temperature	230 - 275	°C
Nozzle Temperature	230 - 275	°C
Front - Zone 3 Temperature	225 - 275	°C
Middle - Zone 2 Temperature	215 - 260	°C
Rear - Zone 1 Temperature	210 - 255	°C
Mold Temperature	50 - 70	°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

• 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.

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