

CYCOLOY* C2800 Resin

Wednesday, October 12, 2011

General Information

Product Description

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

General

Material Status	• Commercial: Active
Availability	• North America
Additive	• Flame Retardant
Features	• Bromine Free • Chlorine Free • Flame Retardant • Good Flow • Good Impact Resistance
Processing Method	• Injection Molding
Multi-Point Data	• Coefficient of Thermal Expansion vs. Temperature (ASTM E831) • Elastic Modulus vs Temperature (ASTM D4065) • Flexural DMA (ASTM D4065) • Instrumented Impact (Energy) (ASTM D3763) • Instrumented Impact (Load) (ASTM D3763) • Pressure-Volume-Temperature (PVT - Zoller Method) • Specific Heat vs. Temperature (ASTM D3417) • Tensile Creep (ASTM D2990) • Tensile Fatigue • Tensile Stress vs. Strain (ASTM D638) • Thermal Conductivity vs. Temperature (ASTM E1530) • Viscosity vs. Shear Rate (ASTM D3835)

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity			ASTM D792
--	1.17	g/cm ³	
-- ²	1.18	g/cm ³	
Melt Mass-Flow Rate (MFR) (260°C/2.16 kg)	16	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.20 mm)	0.40 to 0.60	%	Internal Method
Molding Shrinkage - Across Flow (3.20 mm)	0.40 to 0.60	%	Internal Method
Water Absorption (24 hr)	0.10	%	ASTM D570
Water Absorption (Equilibrium, 23°C)	0.40	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ³	2690	MPa	ASTM D638
Tensile Strength ⁴ (Yield)	58.6	MPa	ASTM D638
Tensile Elongation ⁴ (Yield)	5.0	%	ASTM D638
Tensile Elongation ⁴ (Break)	50	%	ASTM D638
Flexural Modulus ⁵ (100 mm Span)	2690	MPa	ASTM D790
Flexural Strength ⁵ (Yield, 100 mm Span)	96.5	MPa	ASTM D790



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SABIC Innovative Plastics - Acrylonitrile Butadiene Styrene + PC

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	430	J/m	ASTM D256
Instrumented Dart Impact (23°C, Total Energy)	58.3	J	ASTM D3763
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	120		ASTM D785
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed, 3.20 mm	73.9	°C	
1.8 MPa, Unannealed, 6.40 mm	80.0	°C	
Vicat Softening Temperature	90.6	°C	ASTM D1525 ⁶
CLTE - Flow (-40 to 60°C)	0.000072	cm/cm/°C	ASTM E831
CLTE - Transverse (-40 to 60°C)	0.000072	cm/cm/°C	ASTM E831
Thermal Conductivity	0.20	W/m/K	ASTM C177
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+14	ohms	ASTM D257
Volume Resistivity	1.0E+17	ohm-cm	ASTM D257
Dielectric Strength (3.20 mm, in Oil)	18	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
50 Hz	3.00		
60 Hz	3.00		
100 Hz	3.00		
Dissipation Factor			ASTM D150
50 Hz	0.0048		
60 Hz	0.0048		
Arc Resistance (PLC) ⁷	PLC 6		ASTM D495
Flammability	Nominal Value	Unit	Test Method
Flame Rating - UL			UL 94
0.889 mm	V-2		
1.47 mm	V-0		
2.31 mm	5VB		
Oxygen Index	35	%	ASTM D2863
UL	Nominal Value	Unit	Test Method
RTI Str	80.0	°C	UL 746
RTI Imp	70.0	°C	UL 746
RTI Elec	80.0	°C	UL 746
Comparative Tracking Index (CTI) (PLC)	PLC 1		UL 746
High Voltage Arc Tracking Rate (HVTR) (PLC)	PLC 3		UL 746
Hot-wire Ignition (HWI) (PLC)	PLC 3		UL 746
High Amp Arc Ignition (HAI) (PLC)	PLC 0		UL 746

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	77.0 to 82.0	°C



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Injection	Nominal Value	Unit
Drying Time	3.0 to 4.0	hr
Drying Time, Maximum	8.0	hr
Suggested Max Moisture	0.040	%
Suggested Shot Size	30 to 80	%
Rear Temperature	210 to 254	°C
Middle Temperature	216 to 260	°C
Front Temperature	227 to 274	°C
Nozzle Temperature	232 to 274	°C
Processing (Melt) Temp	232 to 274	°C
Mold Temperature	49.0 to 71.0	°C
Back Pressure	0.345 to 0.689	MPa
Screw Speed	40 to 70	rpm
Vent Depth	0.038 to 0.076	mm

Notes

- ¹ Typical properties: these are not to be construed as specifications.
- ² Color
- ³ 50 mm/min
- ⁴ Type I, 50 mm/min
- ⁵ 2.6 mm/min
- ⁶ Rate B (120°C/h), Loading 2 (50 N)
- ⁷ Tungsten Electrode

