

CYCOLOY™ XCY620S resin

Tuesday, July 09, 2013

General Information

Product Description

PC+ ABS Automotive applications

General

Material Status	• Commercial: Active
Availability	• North America
Uses	• Automotive Applications
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.14		ASTM D792
Density	1.14	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR)			ISO 1133
260°C/5.0 kg	1.22	in ³ /10min	
265°C/5.0 kg	1.53	in ³ /10min	
Molding Shrinkage - Flow (0.126 in)	0.0050 to 0.0070	in/in	Internal Method
Molding Shrinkage - Across Flow (0.126 in)	0.0050 to 0.0070	in/in	Internal Method
Water Absorption (73°F, 24 hr)	0.30	%	ISO 62
Water Absorption (Saturation, 73°F)	0.40	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.13	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	319000	psi	ISO 527-2/1
Tensile Stress (Yield)	7830	psi	ISO 527-2/50
Tensile Stress (Break)	8120	psi	ISO 527-2/50
Tensile Strain (Yield)	4.5	%	ISO 527-2/50
Tensile Strain (Break)	100	%	ISO 527-2/50
Flexural Modulus ² (1.97 in Span)	334000	psi	ASTM D790
Flexural Modulus ³	319000	psi	ISO 178
Flexural Strength ^{3, 4}	11900	psi	ISO 178
Flexural Strength ² (Yield, 1.97 in Span)	12500	psi	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁵			ISO 179/1eA
-22°F	21	ft-lb/in ²	
73°F	29	ft-lb/in ²	
Charpy Unnotched Impact Strength ⁶ (73°F)	No Break		ISO 179/1eU

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Impact	Nominal Value	Unit	Test Method
Notched Izod Impact Strength ⁷			ISO 180/1A
-22°F	19	ft-lb/in ²	
73°F	26	ft-lb/in ²	
Instrumented Dart Impact			ASTM D3763
-22°F, Total Energy	575	in-lb	
73°F, Total Energy	487	in-lb	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi, Unannealed, 0.126 in	262	°F	
Heat Deflection Temperature ⁸			ISO 75-2/Bf
66 psi, Unannealed, 2.52 in Span	259	°F	
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed, 0.126 in	226	°F	
Heat Deflection Temperature ⁸			ISO 75-2/Af
264 psi, Unannealed, 2.52 in Span	223	°F	
Vicat Softening Temperature	264	°F	ASTM D1525 ⁹
Vicat Softening Temperature	266	°F	ISO 306/B120
Ball Pressure Test			IEC 60695-10-2
167°F	Pass		
212°F ¹⁰	Pass		
CLTE - Flow (-40 to 104°F)	0.000039	in/in/°F	ASTM E831
CLTE - Transverse (-40 to 104°F)	0.000039	in/in/°F	ASTM E831
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+16	ohm	IEC 60093
Volume Resistivity	> 1.0E+16	ohm·cm	IEC 60093
Electric Strength			IEC 60243-1
0.0315 in, in Oil	990	V/mil	
0.0630 in, in Oil	640	V/mil	
0.126 in, in Oil	430	V/mil	

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	203 to 221	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.020	%
Hopper Temperature	140 to 176	°F
Rear Temperature	446 to 500	°F
Middle Temperature	482 to 554	°F
Front Temperature	482 to 554	°F
Nozzle Temperature	464 to 536	°F
Processing (Melt) Temp	500 to 554	°F
Mold Temperature	140 to 194	°F

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Notes

¹ Typical properties: these are not to be construed as specifications.
² 0.051 in/min
³ 0.079 in/min
⁴ Yield
⁵ 80*10*4 sp=62mm
⁶ 80*10*3 sp=62mm
⁷ 80*10*4
⁸ 80*10*4 mm
⁹ Rate B (120°C/h), Loading 2 (50 N)
¹⁰ Approximate maximum

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