

CYCOLOY* C1100HF Resin

Wednesday, December 07, 2011

General Information

Product Description

CYCOLOY C1100HF is the improved flow version of CYCOLOY C1100 and has been developed to better fill long and complex parts while maintaining still excellent mechanical properties. Its superior flow will enhance productivity and appearance of the finished parts.

General

Material Status	• Commercial: Active
Availability	• Europe
Features	• Good Flow
RoHS Compliance	• RoHS Compliant
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.12	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR)			ISO 1133
260°C/2.16 kg	6.00	cm ³ /10min	
260°C/5.0 kg	20.0	cm ³ /10min	
Molding Shrinkage - Flow ²	0.50 to 0.70	%	Internal Method
Water Absorption (Saturation, 23°C)	0.60	%	ISO 62
Water Absorption (Equilibrium, 23°C, 50% RH)	0.20	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2400	MPa	ISO 527-2/1
Tensile Stress			
Yield	55.0	MPa	ISO 527-2/5
Yield	55.0	MPa	ISO 527-2/50
Tensile Stress			
Break	45.0	MPa	ISO 527-2/5
Break	45.0	MPa	ISO 527-2/50
Tensile Strain			
Yield	5.0	%	ISO 527-2/5
Yield	4.0	%	ISO 527-2/50
Tensile Strain			
Break	120	%	ISO 527-2/5
Break	> 50	%	ISO 527-2/50
Flexural Modulus ³	2300	MPa	ISO 178
Flexural Strength ^{3, 4}	75.0	MPa	ISO 178
Taber Abrasion Resistance			Internal Method
1000 Cycles, 1000 g, CS-17 Wheel	81.0	mg	



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Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-30°C ⁵	30	kJ/m ²	
-30°C ⁶	25	kJ/m ²	
23°C ⁶	50	kJ/m ²	
23°C ⁵	55	kJ/m ²	
Notched Izod Impact Strength			ISO 180/1A
-30°C ⁷	28	kJ/m ²	
-30°C ⁸	25	kJ/m ²	
23°C ⁷	50	kJ/m ²	
23°C ⁸	50	kJ/m ²	
Unnotched Izod Impact Strength ⁷			ISO 180/1U
-30°C	No Break		
23°C	No Break		
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	117		ISO 2039-2
Ball Indentation Hardness (H 358/30)	99.0	MPa	ISO 2039-1
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁹			ISO 75-2/Be
0.45 MPa, Unannealed, 100 mm Span	120	°C	
Heat Deflection Temperature ⁹			ISO 75-2/Ae
1.8 MPa, Unannealed, 100 mm Span	100	°C	
Vicat Softening Temperature			
--	126	°C	ISO 306/B50
--	128	°C	ISO 306/B120
Ball Pressure Test			IEC 60695-10-2
75°C	Pass		
115°C ¹⁰	Pass		
CLTE - Flow (23 to 60°C)	0.000080	cm/cm/°C	ISO 11359-2
CLTE - Transverse (23 to 60°C)	0.000080	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.20	W/m/K	ISO 8302
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohm·cm	IEC 60093



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Electrical	Nominal Value	Unit	Test Method
Relative Permittivity			IEC 60250
50 Hz	2.80		
60 Hz	2.80		
1 MHz	2.70		
Dissipation Factor			IEC 60250
50 Hz	0.0020		
60 Hz	0.0020		
1 MHz	0.0070		
Electric Strength			IEC 60243-1
0.800 mm, in Oil	35	kV/mm	
1.60 mm, in Oil	25	kV/mm	
3.20 mm, in Oil	17	kV/mm	
Flammability	Nominal Value	Unit	Test Method
Flame Rating - UL			UL 94
1.50 mm	HB		
3.00 mm	HB		
Glow Wire Flammability Index (3.20 mm)	650	°C	IEC 60695-2-12
UL	Nominal Value	Unit	Test Method
RTI Str	60.0	°C	UL 746
RTI Imp	60.0	°C	UL 746
RTI Elec	60.0	°C	UL 746

Processing Information		
Injection	Nominal Value	Unit
Drying Temperature	95.0 to 105	°C
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.020	%
Hopper Temperature	60.0 to 80.0	°C
Rear Temperature	220 to 250	°C
Middle Temperature	240 to 280	°C
Front Temperature	240 to 280	°C
Nozzle Temperature	230 to 270	°C
Processing (Melt) Temp	250 to 280	°C
Mold Temperature	60.0 to 90.0	°C



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Notes

¹	Typical properties: these are not to be construed as specifications.
²	Tensile Bar
³	2.0 mm/min
⁴	Yield
⁵	80*10*4 sp=62mm
⁶	80*10*3 sp=62mm
⁷	80*10*4
⁸	80*10*3
⁹	120*10*4 mm
¹⁰	Approximate maximum

