



CYCOLOY™ HCX1640 resin

Monday, 30 June 2014

General Information

Product Description

CYCOLOY™ HCX1640 a PC+ABS blend specially developed for medical devices and pharmaceutical applications requiring improved mechanical performance . It combines good flow with excellent impact and low temperature ductility. Healthcare management of change, biocompatible (ISO10993 or USP Class VI).

General

Material Status	• Commercial: Active
Availability	• Europe
Features	• Biocompatible • Good Flow • Ductile • High Impact Resistance
Uses	• Medical/Healthcare Applications • Pharmaceuticals
Agency Ratings	• ISO 10993 • USP Class VI
RoHS Compliance	• RoHS Compliant
Processing Method	• Injection Molding

ASTM and ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.15		ASTM D792
Density	1.15	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (260°C/5.0 kg)	19	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)	1.10	in ³ /10min	ISO 1133
Molding Shrinkage - Flow (0.126 in)	0.0040 to 0.0060	in/in	Internal Method
Water Absorption (Saturation, 73°F)	0.40	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.10	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ²	348000	psi	ASTM D638
Tensile Modulus	348000	psi	ISO 527-2/1
Tensile Strength ³ (Yield)	7980	psi	ASTM D638
Tensile Stress (Yield)	7980	psi	ISO 527-2/50
Tensile Strength ³ (Break)	7250	psi	ASTM D638
Tensile Stress (Break)	7250	psi	ISO 527-2/50
Tensile Elongation ³ (Yield)	5.0	%	ASTM D638
Tensile Strain (Yield)	5.0	%	ISO 527-2/50
Tensile Elongation ³ (Break)	> 50	%	ASTM D638
Tensile Strain (Break)	> 50	%	ISO 527-2/50
Flexural Modulus ⁴ (1.97 in Span)	334000	psi	ASTM D790
Flexural Modulus ⁵	334000	psi	ISO 178



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SABIC Innovative Plastics Europe - Acrylonitrile Butadiene Styrene + PC

Mechanical	Nominal Value	Unit	Test Method
Flexural Strength ^{5, 6}	12300	psi	ISO 178
Flexural Strength ⁴ (Yield, 1.97 in Span)	12300	psi	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷			ISO 179/1eA
-22°F	9.5	ft·lb/in ²	
73°F	24	ft·lb/in ²	
Notched Izod Impact			ASTM D256
-22°F	5.6	ft·lb/in	
73°F	10	ft·lb/in	
Notched Izod Impact Strength ⁸			ISO 180/1A
-22°F	9.5	ft·lb/in ²	
73°F	24	ft·lb/in ²	
Unnotched Izod Impact ⁹ (73°F)	2.8	ft·lb/in	Internal Method
Instrumented Dart Impact (73°F, Total Energy)	575	in·lb	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi, Unannealed, 0.126 in	252	°F	
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed, 0.126 in	226	°F	
Heat Deflection Temperature ¹⁰			ISO 75-2/Af
264 psi, Unannealed, 2.52 in Span	226	°F	
Vicat Softening Temperature	266	°F	ASTM D1525 ¹¹
Vicat Softening Temperature			
--	266	°F	ISO 306/B50
--	270	°F	ISO 306/B120
CLTE - Flow (-40 to 104°F)	0.000039	in/in/°F	ASTM E831
CLTE - Flow (-40 to 104°F)	0.000039	in/in/°F	ISO 11359-2
CLTE - Transverse (-40 to 104°F)	0.000039	in/in/°F	ASTM E831
CLTE - Transverse (-40 to 104°F)	0.000039	in/in/°F	ISO 11359-2

Processing Information			
Injection	Nominal Value	Unit	
Drying Temperature	212 to 230	°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 0.20 in/min
³ Type I, 2.0 in/min
⁴ 0.051 in/min
⁵ 0.079 in/min
⁶ Yield
⁷ 80*10*3 sp=62mm
⁸ 80*10*3
⁹ Double-Gated
¹⁰ 80*10*4 mm
¹¹ Rate B (120°C/h), Loading 2 (50 N)

