

CYCOLOY™ HCX1640 resin

Polycarbonate + ABS

SABIC Innovative Plastics Europe

Message:

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 Information			
Features	Biocompatible		
	Ductile		
	Good Flow		
	High Impact Resistance		
Uses	Medical/Healthcare Applications		
	Pharmaceuticals		
Agency Ratings	ISO 10993		
	USP Class VI		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.15	g/cm ³	ASTM D792, 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)	18.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.40 to 0.60	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.40	%	
Equilibrium, 23°C, 50% RH	0.10	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2400	MPa	ASTM D638
--	2400	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	55.0	MPa	ASTM D638
Yield	55.0	MPa	ISO 527-2/50
Break ³	50.0	MPa	ASTM D638
Break	50.0	MPa	ISO 527-2/50
Tensile Elongation			

Yield ⁴	5.0	%	ASTM D638
Yield	5.0	%	ISO 527-2/50
Break ⁵	> 50	%	ASTM D638
Break	> 50	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2300	MPa	ASTM D790
-- ⁷	2300	MPa	ISO 178
Flexural Stress			
--	85.0	MPa	ISO 178
Yield, 50.0 mm Span ⁸	85.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
	20		
-30°C	20	kJ/m ²	
	40		
23°C	40	kJ/m ²	
Charpy Unnotched Impact Strength ¹⁰			ISO 179/1eU
	No Break		
-30°C	No Break		
	No Break		
23°C	No Break		
Notched Izod Impact			
-30°C	300	J/m	ASTM D256
23°C	550	J/m	ASTM D256
	20		
-30°C ¹¹	20	kJ/m ²	ISO 180/1A
	40		
23°C ¹²	40	kJ/m ²	ISO 180/1A

Unnotched Izod Impact			
23°C ¹³	150	J/m	Internal Method
	No Break		
-30°C ¹⁴	No Break		ISO 180/1U
	No Break		
23°C ¹⁵	No Break		ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	65.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	122	°C	ASTM D648
1.8 MPa, Unannealed, 3.20 mm	108	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹⁶	108	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	130	°C	ASTM D1525, ISO 306/B50 11 ¹⁷
--	132	°C	ISO 306/B120
CLTE			ASTM E831, ISO 11359-2
Flow : -40 to 40°C	7.0E-5	cm/cm/°C	
Transverse : -40 to 40°C	7.0E-5	cm/cm/°C	
Injection	Nominal Value	Unit	
Drying Temperature	100 to 110	°C	
Drying Time	2.0 to 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 to 80.0	°C	
Rear Temperature	230 to 260	°C	
Middle Temperature	250 to 290	°C	
Front Temperature	250 to 290	°C	
Nozzle Temperature	240 to 280	°C	
Processing (Melt) Temp	260 to 290	°C	
Mold Temperature	60.0 to 90.0	°C	
NOTE			
1.	5.0 mm/min		
2.	Type I, 50 mm/min		
3.	Type I, 50 mm/min		
4.	Type I, 50 mm/min		
5.	Type I, 50 mm/min		
6.	1.3 mm/min		

7.	2.0 mm/min
8.	1.3 mm/min
9.	80*10*4 sp=62mm
10.	80*10*4 sp=62mm
11.	80*10*4
12.	80*10*4
13.	Double-Gated
14.	80*10*4
15.	80*10*4
16.	80*10*4 mm
17.	Rate B (120°C/h), Loading 2 (50 N)

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