

CYCOLOY™ NON-FR RESIN HCX1640

REGION EUROPE

DESCRIPTION

CYCOLOY HCX1640 Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) blend is a biocompatible (ISO10993 or USP Class VI) grade for medical devices and pharmaceutical applications. It has improved heat, flow and impact balance as compared with conventional PC/ABS blends. This grade adheres to our healthcare management of change policy.

TYPICAL PROPERTY VALUES

Revision 20181012

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	55	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	50	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	>50	%	ASTM D 638
Tensile Modulus, 5 mm/min	2400	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	85	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2300	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	55	MPa	ISO 527
Tensile Stress, break, 50 mm/min	50	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	>50	%	ISO 527
Tensile Modulus, 1 mm/min	2400	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	85	MPa	ISO 178
Flexural Modulus, 2 mm/min	2300	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	550	J/m	ASTM D 256
Izod Impact, notched, -30°C	300	J/m	ASTM D 256
Izod Impact, double-gated, 23°C	150	J/m	SABIC method
Instrumented Impact Total Energy, 23°C	65	J	ASTM D 3763
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	40	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	20	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	40	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	20	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m ²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate B/50	130	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	122	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	108	°C	ASTM D 648
CTE, -40°C to 40°C, flow	7.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ASTM E 831

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, flow	7.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	130	°C	ISO 306
Vicat Softening Temp, Rate B/120	132	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	108	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.15	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.4 – 0.6	%	SABIC method
Melt Flow Rate, 260°C/5.0 kgf	19	g/10 min	ASTM D 1238
Density	1.15	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.4	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Melt Volume Rate, MVR at 260°C/5.0 kg	18	cm ³ /10 min	ISO 1133
INJECTION MOLDING			
Drying Temperature	100 – 110	°C	
Drying Time	2 – 4	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	260 – 290	°C	
Nozzle Temperature	240 – 280	°C	
Front - Zone 3 Temperature	250 – 290	°C	
Middle - Zone 2 Temperature	250 – 290	°C	
Rear - Zone 1 Temperature	230 – 260	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	60 – 90	°C	

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