CYCOLAC™ RESIN HMG47MD

REGION AMERICAS

DESCRIPTION

General purpose, injection molding ABS for medical applications. Biocompatible (ISO 10993). FDA compliant. Gamma & EtO sterilizable.

TYPICAL PROPERTY VALUES

Revision 20190703

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	44	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	33	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	2	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	24	%	ASTM D 638
Tensile Modulus, 5 mm/min	2270	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	72	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2340	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	50	MPa	ISO 527
Tensile Stress, break, 5 mm/min	35	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2.6	%	ISO 527
Tensile Strain, break, 5 mm/min	24.8	%	ISO 527
Tensile Modulus, 1 mm/min	2530	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	76	MPa	ISO 178
Flexural Modulus, 2 mm/min	2410	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	320	J/m	ASTM D 256
Izod Impact, notched, -30°C	133	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	30	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	23	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m²	ISO 180/1A
THERMAL			
Vicat Softening Temp, Rate B/50	98	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	94	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	80	°C	ASTM D 648
CTE, -40°C to 40°C, flow	8.82E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.82E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	100	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	80	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.05	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.8	%	SABIC method
Melt Flow Rate, 230°C/3.8 kg	5.6	g/10 min	ASTM D 1238
Density	1.05	g/cm³	ISO 1183
Melt Flow Rate, 220°C/10.0 kg	19	g/10 min	ISO 1133

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FLAME CHARACTERISTICS			
UL Yellow Card Link	E121562-220700	-	-
INJECTION MOLDING			
Drying Temperature	80 – 95	°C	
Drying Time	2 – 4	hrs	
Drying Time (Cumulative)	8	hrs	
Maximum Moisture Content	0.1	%	
Melt Temperature	220 – 260	°C	
Nozzle Temperature	220 – 260	°C	
Front - Zone 3 Temperature	215 – 240	°C	
Middle - Zone 2 Temperature	205 – 225	°C	
Rear - Zone 1 Temperature	190 – 210	°C	
Mold Temperature	50 – 70	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	30 – 60	rpm	
Shot to Cylinder Size	50 – 70	%	
Vent Depth	0.038 – 0.051	mm	

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