

Cycolac* Resin HMG47MD

Americas: COMMERCIAL

General purpose, injection molding ABS for medical applications. Biocompatible (ISO10993), FDA compliant. Gamma & EtO sterilizable.

Property

TYPICAL PROPERTIES ⁽¹⁾			
MECHANICAL	Value	Unit	Standard
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	Value	Unit	Standard
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/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m ²	ISO 180/1A
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	98	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	96	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	82	°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	Value	Unit	Standard
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 kgf	5.6	g/10 min	ASTM D 1238
Density	1.05	g/cm ³	ISO 1183

Source GMD, last updated:07/17/2007

Processing

Parameter	Value	Unit
Injection Molding		
Drying Temperature	80 - 95	°C

Drying Time	2 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.01	%
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

Source GMD, last updated:07/17/2007

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

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