

# CYCOLACT™ RESIN HMG94MD

REGION AMERICAS

## DESCRIPTION

Superior flow, injection molding ABS for thin-wall medical applications. Biocompatible (ISO 10993). FDA compliant. Gamma & EtO sterilizable.

## TYPICAL PROPERTY VALUES

Revision 20220720

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 5 mm/min	46	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	35	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	2	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	18	%	ASTM D638
Tensile Modulus, 5 mm/min	2480	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	79	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2620	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	40	MPa	ISO 527
Tensile Stress, break, 5 mm/min	35	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2	%	ISO 527
Tensile Strain, break, 5 mm/min	35	%	ISO 527
Tensile Modulus, 1 mm/min	2450	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	70	MPa	ISO 178
Flexural Modulus, 2 mm/min	2500	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	240	J/m	ASTM D256
Izod Impact, notched, -30°C	80	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	21	J	ASTM D3763
Izod Impact, notched 80°10°4 +23°C	16	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80°10°4 -30°C	7	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80°10°4 sp=62mm	23	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	98	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	93	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	77	°C	ASTM D648
CTE, -40°C to 40°C, flow	8.8E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.5E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	98	°C	ISO 306
Vicat Softening Temp, Rate B/120	100	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80°10°4 sp=64mm	80	°C	ISO 75/Af
<b>PHYSICAL</b>			
Specific Gravity	1.04	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.8	%	SABIC method
Melt Flow Rate, 230°C/3.8 kg	11.7	g/10 min	ASTM D1238
Density	1.06	g/cm <sup>3</sup>	ISO 1183

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Melt Flow Rate, 220°C/5.0 kg	12	g/10 min	ISO 1133
Melt Viscosity, 240°C, 1000 sec-1	173	Pa-s	ISO 11443
<b>FLAME CHARACTERISTICS</b>			
UL Yellow Card Link	<u>E121562-220727</u>	-	-
<b>INJECTION MOLDING</b>			
Drying Temperature	80 – 90	°C	
Drying Time	2 – 4	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.1	%	
Melt Temperature	205 – 245	°C	
Nozzle Temperature	205 – 245	°C	
Front - Zone 3 Temperature	205 – 225	°C	
Middle - Zone 2 Temperature	200 – 210	°C	
Rear - Zone 1 Temperature	190 – 200	°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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