

**Cycolac\* Resin HMG94MD**  
**Americas: COMMERCIAL**

Superior flow, injection molding ABS for medical applications. Good impact. For thin-wall applications. Biocompatible (ISO10993). FDA compliant. Gamma & EtO sterilizable.

TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	UNIT	STANDARD
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 5 mm/min	470	kgf/cm <sup>2</sup>	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	360	kgf/cm <sup>2</sup>	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	2	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	18	%	ASTM D 638
Tensile Modulus, 5 mm/min	25300	kgf/cm <sup>2</sup>	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	800	kgf/cm <sup>2</sup>	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	26700	kgf/cm <sup>2</sup>	ASTM D 790
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	24	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	8	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	214	cm-kgf	ASTM D 3763
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 D 1525

<sup>1</sup> Typical values only. Variations within normal tolerances are possible for various colours. All values are measured at least after 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume rate are measured on injection moulded samples. All samples are prepared according to ISO 294.

<sup>2</sup> Only typical data for material selection purpose. Not to be used for part or tool design.  
<sup>3</sup> This rating is not intended to reflect hazards presented this or any other material under actual fire conditions.  
<sup>4</sup> Own measurement according to UL.  
<sup>5</sup> Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

Dongguan Yi-Ming Plastic Chemical Co., Ltd.

如需要更多物性资料请查阅 [www.kedisujiao.com](http://www.kedisujiao.com)

备注：以上原料物性数据由厂家发布，我公司仅提供参考！数据如有变动，请联系原料生产厂家获知。我公司不承担任何法律责任！

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TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	UNIT	STANDARD
<b>THERMAL</b>			
HDT, 0.45 MPa, 3.2 mm, unannealed	93	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	77	°C	ASTM D 648
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 D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.5 - 0.8	%	SABIC Method
Melt Flow Rate, 230°C/3.8 kgf	11.7	g/10 min	ASTM D 1238
Melt Viscosity, 240°C, 1000 sec-1	1720	poise	ASTM D 3825
Density	1.06	g/cm <sup>3</sup>	ISO 1183
Melt Flow Rate, 220°C/5.0 kg	12	g/10 min	ISO 1133

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
<b>Injection Molding</b>		
Drying Temperature	80 - 90	°C
Drying Time	2 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.01	%
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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