



CYCOLAC™ Resin MG94
Americas: COMMERCIAL

Superior flow, injection molding ABS. Good impact. For thin-wall applications.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	460	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	350	kgf/cm ²	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	25200	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	800	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	26700	kgf/cm ²	ASTM D 790
Hardness, Rockwell R	113	-	ASTM D 785
Tensile Stress, yield, 50 mm/min	46	MPa	ISO 527
Tensile Stress, break, 50 mm/min	35	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	2.3	%	ISO 527
Tensile Strain, break, 50 mm/min	40	%	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
IMPACT			
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
Instrumented Impact Total Energy, -30°C	50	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	16	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	7	kJ/m ²	ISO 180/1A





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IMPACT			
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	18	kJ/m ²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	98	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	95	°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	ASTM E 831
CTE, -40°C to 40°C, xflow	8.46E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	8.82E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.46E-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/Be, 0.45MPa Edgew 120*10*4 sp=100mm	89	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	76	°C	ISO 75/Ae
Relative Temp Index, Elec	60	°C	UL 746B
Relative Temp Index, Mech w/impact	60	°C	UL 746B
Relative Temp Index, Mech w/o impact	60	°C	UL 746B
PHYSICAL			
Specific Gravity	1.05	-	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	1.04	g/cm ³	ISO 1183
Melt Flow Rate, 220°C/5.0 kg	12	g/10 min	ISO 1133
Melt Flow Rate, 220°C/10.0 kg	42	g/10 min	ISO 1133
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating (3)	1.52	mm	UL 94





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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
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

