



CYCOLAC™ Resin MG29
Americas: COMMERCIAL

Super high impact ABS. Good low temperature toughness.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	390	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	310	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	2.4	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	26	%	ASTM D 638
Tensile Modulus, 5 mm/min	20300	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	660	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	21100	kgf/cm ²	ASTM D 790
Tensile Stress, yield, 50 mm/min	42	MPa	ISO 527
Tensile Stress, break, 50 mm/min	32	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	2.8	%	ISO 527
Tensile Strain, break, 50 mm/min	20	%	ISO 527
Tensile Modulus, 1 mm/min	2050	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	61	MPa	ISO 178
Flexural Modulus, 2 mm/min	1990	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	46	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	295	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	37	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	12	kJ/m ²	ISO 180/1A
THERMAL			
Vicat Softening Temp, Rate B/50	99	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	94	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	79	°C	ASTM D 648

(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.
 (5) 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.
 (6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source GMD, last updated:

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
THERMAL			
CTE, -40°C to 40°C, flow	9.54E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	9.36E-05	1/°C	ASTM E 831
Vicat Softening Temp, Rate B/50	98	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	79	°C	ISO 75/Af
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	1.04	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.5 - 0.8	%	SABIC Method
Melt Flow Rate, 230°C/3.8 kgf	1.2	g/10 min	ASTM D 1238
Melt Viscosity, 240°C, 1000 sec-1	2800	poise	ASTM D 3825
Melt Flow Rate, 220°C/10.0 kg	8	g/10 min	ISO 1133
ELECTRICAL			
Arc Resistance, Tungsten {PLC}	5	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	3	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	0	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	1	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	0	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating (3)	1.5	mm	UL 94

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	90 - 95	°C
Drying Time	2 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.01	%
Melt Temperature	230 - 275	°C
Nozzle Temperature	230 - 275	°C
Front - Zone 3 Temperature	225 - 240	°C
Middle - Zone 2 Temperature	210 - 220	°C
Rear - Zone 1 Temperature	190 - 200	°C
Mold Temperature	50 - 65	°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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