GELOY™ Resin CR8510

Americas: COMMERCIAL

ASA, excellent weatherability, injection molding.

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	400	kgf/cm²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	330	kgf/cm²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	3.6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	60	%	ASTM D 638
Tensile Modulus, 50 mm/min	21100	kgf/cm²	ASTM D 638
Tensile Modulus, 5 mm/min	20000	kgf/cm²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	690	kgf/cm²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	22100	kgf/cm²	ASTM D 790
Hardness, Rockwell R	93	-	ASTM D 785
Tensile Stress, yield, 50 mm/min	43	MPa	ISO 527
Tensile Stress, break, 50 mm/min	35	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	3.3	%	ISO 527
Tensile Strain, break, 50 mm/min	19	%	ISO 527
Tensile Modulus, 1 mm/min	2040	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	64	MPa	ISO 178
Flexural Modulus, 2 mm/min	2060	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	40	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	6	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	305	cm-kgf	ASTM D 3763
Instrumented Impact Total Energy, -30°C	40	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	15	kJ/m²	ISO 180/1A

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(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.

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TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
IMPACT			
Izod Impact, notched 80*10*4 -30°C	6	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	14	kJ/m²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	98	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	103	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	90	°C	ASTM D 648
CTE, -40°C to 40°C, flow	8.4E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	9.5E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	8.4E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	9.5E-05	1/°C	ISO 11359-2
Ball Pressure Test, approximate maximum	98	°C	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	102	°C	ISO 306
Vicat Softening Temp, Rate B/120	105	°C	ISO 306
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	88	°C	ISO 75/Ae
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	103	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	89	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.08	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.5 - 0.8	%	SABIC Method
Melt Flow Rate, 220°C/10.0 kgf	6.3	g/10 min	ASTM D 1238
Melt Flow Rate, 260°C/5.0 kgf	11	g/10 min	ASTM D 1238
Melt Flow Rate, 280°C/3.8 kgf	7.8	g/10 min	ASTM D 1238
Density	1.07	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.5	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.2	%	ISO 62

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PHYSICAL			
Melt Volume Rate, MVR at 220°C/10.0 kg	6	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 260°C/5.0 kg	10	cm³/10 min	ISO 1133
OPTICAL			
Gloss, untextured, 60 degrees	94	-	ASTM D 523
ELECTRICAL			
Dissipation Factor, 100 kHz	0.018	-	ASTM D 150
Dissipation Factor, 1 MHz	0.026	-	ASTM D 150
Dielectric Strength in oil, 1.5mm	26.1	kV/mm	IEC 60243-1
Comparative Tracking Index	600	V	IEC 60112
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating (3)	1.5	mm	UL 94
UV-light, water exposure/immersion	F1	-	UL 746C

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	85 - 90	°C
Drying Time	4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.04	%
Melt Temperature	240 - 270	°C
Nozzle Temperature	220 - 255	°C
Front - Zone 3 Temperature	230 - 260	°C
Middle - Zone 2 Temperature	220 - 255	°C
Rear - Zone 1 Temperature	215 - 250	°C
Mold Temperature	60 - 85	°C
Back Pressure	0.3 - 1	MPa
Screw Speed	30 - 80	rpm
Shot to Cylinder Size	40 - 80	%
Vent Depth	0.038 - 0.076	mm

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