

## SABIC Innovative Plastics GELOY HRA222F ASA+PC

Category : Polymer , Thermoplastic , ASA Polymer , Polycarbonate (PC) , Polycarbonate/ASA Alloy, Unreinforced

### Material Notes:

Geloy HRA222F is a multi-purpose, chlorine and bromine free flame retardant PC+ASA alloy for injection molding processes. F1 rating according UL746C. Use for exterior/interior electrical applications requiring UV resistance.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-GELOY-HRA222F-ASAPC.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-GELOY-HRA222F-ASAPC.php)

Physical Properties	Metric	English	Comments
Density	1.17 g/cc	0.0423 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption	0.200 %	0.200 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.60 %	0.60 %	ISO 62
Linear Mold Shrinkage, Flow	0.0040 - 0.0060 cm/cm	0.0040 - 0.0060 in/in	on Tensile Bar; SABIC Method
Melt Index of Compound	13 g/10 min @Load 2.16 kg, Temperature 260 °C	13 g/10 min @Load 4.76 lb, Temperature 500 °F	MVR [cm <sup>3</sup> /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	45.0 MPa	6530 psi	50 mm/min; ISO 527
	51.0 MPa	7400 psi	5 mm/min; ISO 527
	56.0 MPa	8120 psi	Type I, 50 mm/min; ASTM D638
	66.0 MPa	9570 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	59.0 MPa	8560 psi	Type I, 5 mm/min; ASTM D638
	60.0 MPa	8700 psi	50 mm/min; ISO 527
	62.0 MPa	8990 psi	5 mm/min; ISO 527
	63.0 MPa	9140 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	>= 50 %	>= 50 %	5 mm/min; ISO 527
	>= 50 %	>= 50 %	50 mm/min; ISO 527
	>= 100 %	>= 100 %	Type I, 50 mm/min; ASTM D638
	>= 100 %	>= 100 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	4.2 %	4.2 %	Type I, 5 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
	4.3 %	4.3 %	Type I, 50 mm/min; ASTM D638
	4.4 %	4.4 %	50 mm/min; ISO 527
Tensile Modulus	2.52 GPa	365 ksi	1 mm/min; ISO 527
	2.59 GPa	376 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	93.0 MPa	13500 psi	2 mm/min; ISO 178
Flexural Modulus	2.51 GPa	364 ksi	2 mm/min; ISO 178
Izod Impact, Notched	3.85 J/cm	7.21 ft-lb/in	ASTM D256
	2.90 J/cm	5.43 ft-lb/in	ASTM D256
	@Temperature 0.000 °C	@Temperature 32.0 °F	
Izod Impact, Notched (ISO)	17.0 kJ/m <sup>2</sup>	8.09 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1A
	9.00 kJ/m <sup>2</sup>	4.28 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	12.0 kJ/m <sup>2</sup>	5.71 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1A
	@Temperature 0.000 °C	@Temperature 32.0 °F	
Charpy Impact, Notched	1.50 J/cm <sup>2</sup>	7.14 ft-lb/in <sup>2</sup>	Edgew 80*10*4 sp=62mm; ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	69.0 μm/m-°C	38.3 μin/in-°F	ISO 11359-2
	@Temperature -30.0 - 80.0 °C	@Temperature -22.0 - 176 °F	
CTE, linear, Transverse to Flow	71.0 μm/m-°C	39.4 μin/in-°F	ISO 11359-2
	@Temperature -30.0 - 80.0 °C	@Temperature -22.0 - 176 °F	
	75.0 μm/m-°C	41.7 μin/in-°F	ISO 11359-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
Deflection Temperature at 0.46 MPa (66 psi)	99.0 °C	210 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	88.0 °C	190 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
Vicat Softening Point	102 °C	216 °F	Rate B/50; ISO 306
	104 °C	219 °F	Rate B/120; ISO 306

Thermal Properties	Metric	English	Comments
	°C	°F	UL 746B, ISO 306
UL RTI, Electrical	90.0 °C	194 °F	UL 746B
UL RTI, Mechanical with Impact	90.0 °C	194 °F	UL 746B
UL RTI, Mechanical without Impact	90.0 °C	194 °F	UL 746B
Flammability, UL94	V-0 @Thickness 2.00 mm	V-0 @Thickness 0.0787 in	UL 94
Oxygen Index	29 %	29 %	ISO 4589

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	>= 600 V	>= 600 V	UL 746A
	600 V	600 V	IEC 60112

Descriptive Properties	Value	Comments
Ball Pressure Test, 75°C +/- 2°C	PASSES	IEC 60695-10-2
UV-light, water exposure/immersion	F1	UL 746C

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