

GELOY™ HRA222 resin

Acrylonitrile Styrene Acrylate

SABIC Innovative Plastics Europe

Message:

GELOY HRA222 is a multi-purpose, chlorine and bromine free flame retardant ASA+PC alloy for injection moulding processes. Typical properties as measured on natural material.

General Information			
UL YellowCard	E45329-236512		
Additive	Flame Retardant		
Features	Bromine Free		
	Chlorine Free		
	Flame Retardant		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.17	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (260°C/2.16 kg)	13.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow ¹	0.40 to 0.60	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.60	%	
Equilibrium, 23°C, 50% RH	0.20	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	2590	MPa	ASTM D638
--	2520	MPa	ISO 527-2/1
Tensile Strength			
Yield ³	59.0	MPa	ASTM D638
Yield ⁴	63.0	MPa	ASTM D638
Yield	62.0	MPa	ISO 527-2/5
Yield	60.0	MPa	ISO 527-2/50
Break ⁵	66.0	MPa	ASTM D638
Break ⁶	56.0	MPa	ASTM D638
Break	51.0	MPa	ISO 527-2/5
Break	45.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁷	4.2	%	ASTM D638
Yield ⁸	4.3	%	ASTM D638
Yield	4.3	%	ISO 527-2/5

Yield	4.4	%	ISO 527-2/50
Break ⁹	> 100	%	ASTM D638
Break ¹⁰	> 100	%	ASTM D638
Break	> 50	%	ISO 527-2/5, ISO 527-2/50
Flexural Modulus ¹¹	2520	MPa	ISO 178
Flexural Stress	93.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹² (23°C)	15	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
0°C	290	J/m	ASTM D256
23°C	390	J/m	ASTM D256
-30°C ¹³	9.0	kJ/m ²	ISO 180/1A
0°C ¹⁴	12	kJ/m ²	ISO 180/1A
23°C ¹⁵	17	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ¹⁶			
0.45 MPa, Unannealed, 100 mm Span	99.0	°C	ISO 75-2/Be
1.8 MPa, Unannealed, 100 mm Span	88.0	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	111	°C	ISO 306/A50
--	102	°C	ISO 306/B50
--	104	°C	ISO 306/B120
Ball Pressure Test (75°C)	Pass		IEC 60695-10-2
CLTE			ISO 11359-2
Flow : -30 to 80°C	6.9E-5	cm/cm/°C	
Transverse : -30 to 80°C	7.1E-5	cm/cm/°C	
Transverse : 23 to 80°C	7.5E-5	cm/cm/°C	
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.800 mm	V-2		
2.00 mm	V-0		
2.30 mm	5VB		
2.30 mm, Testing by SABIC	5VB		
Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Oxygen Index	29	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	80.0 to 90.0	°C	
Drying Time	2.0 to 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 to 80.0	°C	
Rear Temperature	200 to 230	°C	
Middle Temperature	220 to 260	°C	

Front Temperature	230 to 270	°C
Nozzle Temperature	220 to 260	°C
Processing (Melt) Temp	230 to 270	°C
Mold Temperature	50.0 to 70.0	°C

NOTE

1.	Tensile Bar
2.	5.0 mm/min
3.	Type I, 5.0 mm/min
4.	Type I, 50 mm/min
5.	Type I, 5.0 mm/min
6.	Type I, 50 mm/min
7.	Type I, 5.0 mm/min
8.	Type I, 50 mm/min
9.	Type I, 5.0 mm/min
10.	Type I, 50 mm/min
11.	2.0 mm/min
12.	80*10*4 sp=62mm
13.	80*10*4
14.	80*10*4
15.	80*10*4
16.	120*10*4 mm

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