

# GELOY™ RESIN HRA222

REGION EUROPE

## DESCRIPTION

PC/ASA flame retardant, excellent weatherability.

## TYPICAL PROPERTY VALUES

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 50 mm/min	63	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	56	MPa	ASTM D638
Tensile Stress, yld, Type I, 5 mm/min	59	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	66	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	4.3	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	>100	%	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	4.2	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	>100	%	ASTM D638
Tensile Modulus, 5 mm/min	2590	MPa	ASTM D638
Tensile Stress, yield, 5 mm/min	62	MPa	ISO 527
Tensile Stress, break, 5 mm/min	51	MPa	ISO 527
Tensile Stress, yield, 50 mm/min	60	MPa	ISO 527
Tensile Stress, break, 50 mm/min	45	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	4.3	%	ISO 527
Tensile Strain, break, 5 mm/min	>50	%	ISO 527
Tensile Strain, yield, 50 mm/min	4.4	%	ISO 527
Tensile Strain, break, 50 mm/min	>50	%	ISO 527
Tensile Modulus, 1 mm/min	2520	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	93	MPa	ISO 178
Flexural Modulus, 2 mm/min	2510	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	385	J/m	ASTM D256
Izod Impact, notched, 0°C	290	J/m	ASTM D256
Izod Impact, notched 80*10*4 +23°C	17	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	12	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	9	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	15	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL</b>			
CTE, -30°C to 80°C, flow	6.9E-05	1/°C	ISO 11359-2
CTE, -30°C to 80°C, xflow	7.1E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.5E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	111	°C	ISO 306
Vicat Softening Temp, Rate B/50	102	°C	ISO 306
Vicat Softening Temp, Rate B/120	104	°C	ISO 306

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	99	°C	ISO 75 /Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	88	°C	ISO 75 /Ae
<b>PHYSICAL</b>			
Mold Shrinkage on Tensile Bar, flow	0.4 – 0.6	%	SABIC method
Density	1.17	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/saturated)	0.6	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.2	%	ISO 62
Melt Volume Rate, MVR at 260°C/2.16 kg	13	cm <sup>3</sup> /10 min	ISO 1133
<b>FLAME CHARACTERISTICS</b>			
UL Compliant, 94-5VB Rating	2.3	mm	UL 94 by SABIC-IP
UL Recognized, 94V-2 Flame Class Rating	0.8	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	2	mm	UL 94
UL Recognized, 94-5VB Flame Class Rating	2.3	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	1	mm	IEC 60695-2-12
Oxygen Index (LOI)	29	%	ISO 4589
<b>INJECTION MOLDING</b>			
Drying Temperature	80 – 90	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	230 – 270	°C	
Nozzle Temperature	220 – 260	°C	
Front - Zone 3 Temperature	230 – 270	°C	
Middle - Zone 2 Temperature	220 – 260	°C	
Rear - Zone 1 Temperature	200 – 230	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	50 – 70	°C	