



# GELOY™ Resin HRA170D

## Europe-Africa-Middle East: COMMERCIAL

GELOY HRA170D resin is a PC-ASA blend with permanent antistatic behavior. It is typically used in applications that require antidust properties and high impact retention. GELOY HRA170D resin is typically used in various outdoor and indoor applications requiring superior heat aging properties and colour stability.

TYPICAL PROPERTIES¹	TYPICAL VALUE	Unit	Standard
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 50 mm/min	550	kgf/cm²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	600	kgf/cm²	ASTM D 638
Tensile Stress, yld, Type I, 5 mm/min	500	kgf/cm²	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	590	kgf/cm²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	140	%	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	5	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	160	%	ASTM D 638
Tensile Modulus, 5 mm/min	22000	kgf/cm²	ASTM D 638
Tensile Stress, yield, 5 mm/min	51	MPa	ISO 527
Tensile Stress, break, 5 mm/min	65	MPa	ISO 527
Tensile Stress, yield, 50 mm/min	54	MPa	ISO 527
Tensile Stress, break, 50 mm/min	58	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	130	%	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	130	%	ISO 527
Tensile Modulus, 1 mm/min	2150	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	80	MPa	ISO 178
Flexural Modulus, 2 mm/min	2100	MPa	ISO 178
Hardness, H358/30	63	MPa	ISO 2039-1
Hardness, Rockwell L	57	-	ISO 2039-2

(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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### Europe-Africa-Middle East: COMMERCIAL

TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	Unit	Standard
<b>MECHANICAL</b>			
Hardness, Shore D	77	-	ISO 868
<b>IMPACT</b>			
Izod Impact, notched, 23°C	45	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	14	cm-kgf/cm	ASTM D 256
Izod Impact, notched 80*10*4 +23°C	45	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	14	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	45	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	17	kJ/m²	ISO 179/1eA
<b>THERMAL</b>			
HDT, 1.82 MPa, 3.2mm, unannealed	106	°C	ASTM D 648
Vicat Softening Temp, Rate A/50	137	°C	ISO 306
Vicat Softening Temp, Rate A/120	138	°C	ISO 306
Vicat Softening Temp, Rate B/50	121	°C	ISO 306
Vicat Softening Temp, Rate B/120	122	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	127	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	104	°C	ISO 75/Af
<b>PHYSICAL</b>			
Specific Gravity	1.16	-	ASTM D 792
Melt Flow Rate, 220°C/10.0 kgf	8.5	g/10 min	ASTM D 1238
Melt Flow Rate, 260°C/5.0 kgf	30	g/10 min	ASTM D 1238
Density	1.16	g/cm³	ISO 1183
Melt Flow Rate, 220°C/10.0 kg	8	g/10 min	ISO 1133
Melt Volume Rate, MVR at 220°C/10.0 kg	8	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 260°C/5.0 kg	29	cm³/10 min	ISO 1133
<b>ELECTRICAL</b>			
Surface Resistivity, ROA	1.E+13	Ohm	IEC 60093

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
<b>Injection Molding</b>		
Drying Temperature	85 - 95	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.04	%
Melt Temperature	255 - 270	°C
Nozzle Temperature	235 - 255	°C
Front - Zone 3 Temperature	245 - 260	°C
Middle - Zone 2 Temperature	235 - 255	°C
Rear - Zone 1 Temperature	230 - 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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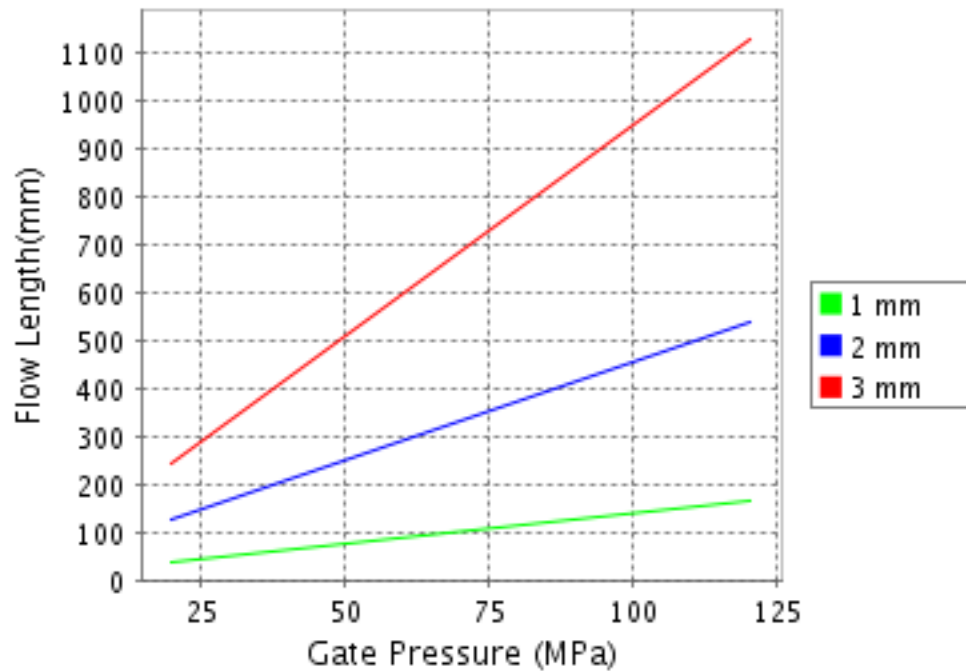
### CALCULATED FLOW LENGTH INDICATION

Moldflow® Radial Flow Analysis

GELOY® HRA170D

Melt Temperature : 265°C

Mold Temperature : 75°C



**Note: Technical support is recommended if Gate Pressure is greater than 80 MPa. Contact your local representative.**

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