



## GELOY™ Resin HRA170E

### Europe-Africa-Middle East: COMMERCIAL

GELOY HRA170E is a high heat resistant ASA+PC. It shows high impact retention, which can be positioned for various outdoor and indoor applications requiring superior heat aging properties and colour stability.

| TYPICAL PROPERTIES <sup>1</sup>             | TYPICAL VALUE | Unit              | Standard       |
|---------------------------------------------|---------------|-------------------|----------------|
| <b>MECHANICAL</b>                           |               |                   |                |
| Taber Abrasion, CS-17, 1 kg                 | 95            | mg/1000cy         | SABIC Method   |
| Tensile Stress, yield, 5 mm/min             | 55            | MPa               | ISO 527        |
| Tensile Stress, break, 5 mm/min             | 60            | MPa               | ISO 527        |
| Tensile Stress, yield, 50 mm/min            | 62            | MPa               | ISO 527        |
| Tensile Stress, break, 50 mm/min            | 62            | MPa               | ISO 527        |
| Tensile Strain, yield, 5 mm/min             | 5             | %                 | ISO 527        |
| Tensile Strain, break, 5 mm/min             | 125           | %                 | ISO 527        |
| Tensile Strain, yield, 50 mm/min            | 4             | %                 | ISO 527        |
| Tensile Strain, break, 50 mm/min            | >50           | %                 | ISO 527        |
| Tensile Modulus, 1 mm/min                   | 2500          | MPa               | ISO 527        |
| Flexural Stress, yield, 2 mm/min            | 85            | MPa               | ISO 178        |
| Flexural Modulus, 2 mm/min                  | 2400          | MPa               | ISO 178        |
| Hardness, H358/30                           | 106           | MPa               | ISO 2039-1     |
| Hardness, Rockwell R                        | 120           | -                 | ISO 2039-2     |
| <b>IMPACT</b>                               |               |                   |                |
| Izod Impact, notched 80*10*4 +23°C          | 45            | kJ/m <sup>2</sup> | ISO 180/1A     |
| Izod Impact, notched 80*10*4 -30°C          | 15            | kJ/m <sup>2</sup> | ISO 180/1A     |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm  | 45            | kJ/m <sup>2</sup> | ISO 179/1eA    |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm | 12            | kJ/m <sup>2</sup> | ISO 179/1eA    |
| <b>THERMAL</b>                              |               |                   |                |
| Thermal Conductivity                        | 0.2           | W/m-°C            | ISO 8302       |
| CTE, 23°C to 60°C, flow                     | 8.E-05        | 1/°C              | ISO 11359-2    |
| Ball Pressure Test, 125°C +/- 2°C           | PASSES        | -                 | IEC 60695-10-2 |



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| <b>THERMAL</b>                                |               |                         |                   |
| Vicat Softening Temp, Rate B/50               | 131           | °C                      | ISO 306           |
| Vicat Softening Temp, Rate B/120              | 134           | °C                      | ISO 306           |
| HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm       | 123           | °C                      | ISO 75/Be         |
| HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm       | 114           | °C                      | ISO 75/Ae         |
| <b>PHYSICAL</b>                               |               |                         |                   |
| Mold Shrinkage on Tensile Bar, flow (2) (5)   | 0.4 - 0.6     | %                       | SABIC Method      |
| Density                                       | 1.15          | g/cm <sup>3</sup>       | ISO 1183          |
| Water Absorption, (23°C/sat)                  | 0.6           | %                       | ISO 62            |
| Moisture Absorption (23°C / 50% RH)           | 0.2           | %                       | ISO 62            |
| Melt Volume Rate, MVR at 260°C/5.0 kg         | 17            | cm <sup>3</sup> /10 min | ISO 1133          |
| <b>ELECTRICAL</b>                             |               |                         |                   |
| Volume Resistivity                            | >1.E+15       | Ohm-cm                  | IEC 60093         |
| Surface Resistivity, ROA                      | >1.E+15       | Ohm                     | IEC 60093         |
| Dielectric Strength, in oil, 3.2 mm           | 17            | kV/mm                   | IEC 60243-1       |
| Relative Permittivity, 1 MHz                  | 2.8           | -                       | IEC 60250         |
| Dissipation Factor, 1 MHz                     | 0.013         | -                       | IEC 60250         |
| Comparative Tracking Index                    | 225           | V                       | IEC 60112         |
| <b>FLAME CHARACTERISTICS</b>                  |               |                         |                   |
| UL Compliant, 94HB Flame Class Rating (3)(4)  | 1.6           | mm                      | UL 94 by SABIC-IP |
| Glow Wire Flammability Index 750°C, passes at | 3.2           | mm                      | IEC 60695-2-12    |
| Oxygen Index (LOI)                            | 22            | %                       | ISO 4589          |



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| PROCESSING PARAMETERS       | TYPICAL VALUE | Unit |
|-----------------------------|---------------|------|
| <b>Injection Molding</b>    |               |      |
| Drying Temperature          | 100 - 110     | °C   |
| Drying Time                 | 2 - 4         | hrs  |
| Maximum Moisture Content    | 0.02          | %    |
| Melt Temperature            | 260 - 290     | °C   |
| Nozzle Temperature          | 240 - 280     | °C   |
| Front - Zone 3 Temperature  | 250 - 290     | °C   |
| Middle - Zone 2 Temperature | 250 - 290     | °C   |
| Rear - Zone 1 Temperature   | 230 - 260     | °C   |
| Hopper Temperature          | 60 - 80       | °C   |
| Mold Temperature            | 60 - 90       | °C   |



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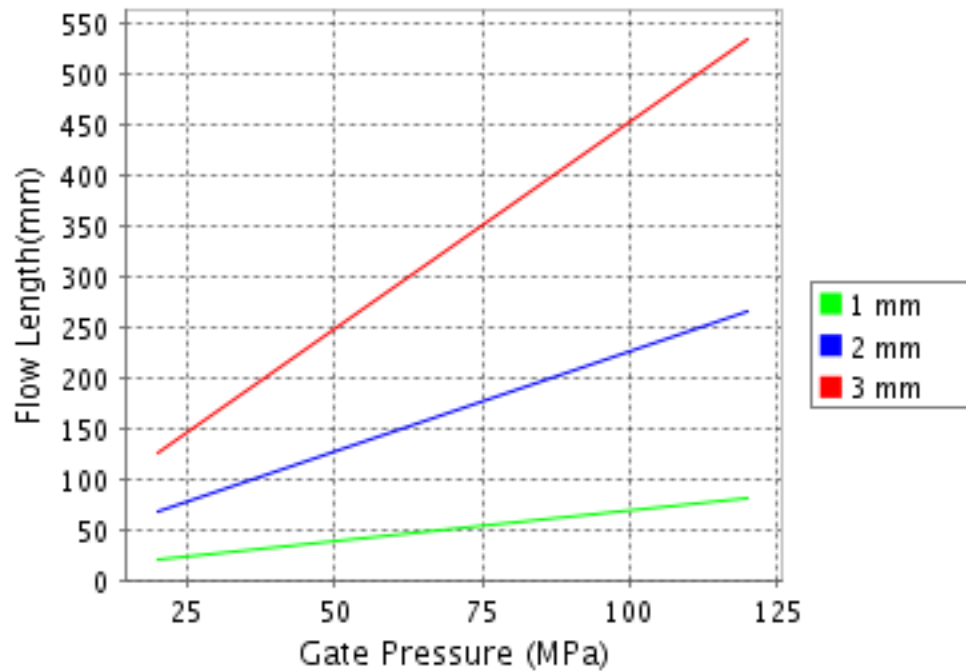
### CALCULATED FLOW LENGTH INDICATION

Moldflow® Radial Flow Analysis

GELOY® HRA170E

Melt Temperature : 275°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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