

# XENOY<sup>TM</sup> RESIN 1105

REGION ASIA

## DESCRIPTION

PBT/PC blend, injection molding grade, non-reinforced, impact modified, excellent toughness at low temperatures, very good paintability

## TYPICAL PROPERTY VALUES

Revision 20190925

| PROPERTIES                                   | TYPICAL VALUES | UNITS             | TEST METHODS |
|----------------------------------------------|----------------|-------------------|--------------|
| MECHANICAL                                   |                |                   |              |
| Tensile Stress, yld, Type I, 50 mm/min       | 48             | MPa               | ASTM D 638   |
| Tensile Stress, brk, Type I, 50 mm/min       | 47             | MPa               | ASTM D 638   |
| Tensile Stress, yld, Type I, 5 mm/min        | 45             | MPa               | ASTM D 638   |
| Tensile Stress, brk, Type I, 5 mm/min        | 46             | MPa               | ASTM D 638   |
| Tensile Strain, yld, Type I, 50 mm/min       | 4.2            | %                 | ASTM D 638   |
| Tensile Strain, brk, Type I, 50 mm/min       | 120            | %                 | ASTM D 638   |
| Tensile Strain, yld, Type I, 5 mm/min        | 4.1            | %                 | ASTM D 638   |
| Tensile Strain, brk, Type I, 5 mm/min        | 110            | %                 | ASTM D 638   |
| Tensile Modulus, 50 mm/min                   | 2010           | MPa               | ASTM D 638   |
| Tensile Modulus, 5 mm/min                    | 1980           | MPa               | ASTM D 638   |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 76             | MPa               | ASTM D 790   |
| Flexural Stress, brk, 1.3 mm/min, 50 mm span | 74             | MPa               | ASTM D 790   |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 1900           | MPa               | ASTM D 790   |
| Tensile Stress, yield, 50 mm/min             | 52             | MPa               | ISO 527      |
| Tensile Stress, break, 50 mm/min             | 50             | MPa               | ISO 527      |
| Tensile Strain, yield, 50 mm/min             | 4.5            | %                 | ISO 527      |
| Tensile Strain, break, 50 mm/min             | 116            | %                 | ISO 527      |
| Tensile Modulus, 1 mm/min                    | 2070           | MPa               | ISO 527      |
| Flexural Stress, yield, 2 mm/min             | 78             | MPa               | ISO 178      |
| Flexural Strain, break, 2 mm/min             | 7.3            | %                 | ISO 178      |
| Flexural Modulus, 2 mm/min                   | 2010           | MPa               | ISO 178      |
| Hardness, Shore D                            | 79             | -                 | ISO 868      |
| IMPACT                                       |                |                   |              |
| Izod Impact, notched, 23°C                   | 755            | J/m               | ASTM D 256   |
| Izod Impact, notched, 0°C                    | 715            | J/m               | ASTM D 256   |
| Izod Impact, notched, -10°C                  | 695            | J/m               | ASTM D 256   |
| Izod Impact, notched, -20°C                  | 687            | J/m               | ASTM D 256   |
| Izod Impact, notched, -30°C                  | 489            | J/m               | ASTM D 256   |
| Izod Impact, notched, -40°C                  | 372            | J/m               | ASTM D 256   |
| Izod Impact, notched 80*10*4 +23°C           | 63             | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, notched 80*10*4 -30°C           | 51             | kJ/m <sup>2</sup> | ISO 180/1A   |
| Izod Impact, notched 80*10*4 -40°C           | 34             | kJ/m <sup>2</sup> | ISO 180/1A   |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm   | 62             | kJ/m <sup>2</sup> | ISO 179/1eA  |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm  | 47             | kJ/m <sup>2</sup> | ISO 179/1eA  |
| THERMAL                                      |                |                   |              |

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| PROPERTIES                             | TYPICAL VALUES | UNITS              | TEST METHODS |
|----------------------------------------|----------------|--------------------|--------------|
| Vicat Softening Temp, Rate B/50        | 122            | °C                 | ASTM D 1525  |
| HDT, 0.45 MPa, 6.4 mm, unannealed      | 115            | °C                 | ASTM D 648   |
| HDT, 1.82 MPa, 6.4 mm, unannealed      | 97             | °C                 | ASTM D 648   |
| Vicat Softening Temp, Rate B/50        | 122            | °C                 | ISO 306      |
| Vicat Softening Temp, Rate B/120       | 123            | °C                 | ISO 306      |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm | 109            | °C                 | ISO 75/Bf    |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm  | 90             | °C                 | ISO 75/Af    |
| PHYSICAL                               |                |                    |              |
| Specific Gravity                       | 1.2            | -                  | ASTM D 792   |
| Specific Volume                        | 1.2            | cm <sup>3</sup> /g | ASTM D 792   |
| Mold Shrinkage, flow, 3.2 mm           | 0.8 – 1        | %                  | SABIC method |
| Mold Shrinkage, xflow, 3.2 mm          | 0.8 – 1        | %                  | SABIC method |
| Melt Flow Rate, 250°C/5.0 kgf          | 16             | g/10 min           | ASTM D 1238  |
| Density                                | 1.2            | g/cm <sup>3</sup>  | ISO 1183     |
| Melt Flow Rate, 250°C/5.0 kg           | 16             | g/10 min           | ISO 1133     |
| INJECTION MOLDING                      |                |                    |              |
| Drying Temperature                     | 110            | °C                 |              |
| Drying Time                            | 4 – 6          | hrs                |              |
| Drying Time (Cumulative)               | 8              | hrs                |              |
| Maximum Moisture Content               | 0.02           | %                  |              |
| Melt Temperature                       | 260 – 275      | °C                 |              |
| Nozzle Temperature                     | 255 – 270      | °C                 |              |
| Front - Zone 3 Temperature             | 255 – 275      | °C                 |              |
| Middle - Zone 2 Temperature            | 250 – 270      | °C                 |              |
| Rear - Zone 1 Temperature              | 245 – 265      | °C                 |              |
| Mold Temperature                       | 65 – 90        | °C                 |              |
| Back Pressure                          | 0.3 – 0.7      | MPa                |              |
| Screw Speed                            | 50 – 80        | rpm                |              |
| Shot to Cylinder Size                  | 50 – 80        | %                  |              |
| Vent Depth                             | 0.013 – 0.02   | mm                 |              |

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