

## XENOY™ RESIN 5720U

REGION AMERICAS

### DESCRIPTION

Unfilled PBT+PC alloy. Outstanding low temperature impact /chemical resistance. UV stabilized version of XENOY

### TYPICAL PROPERTY VALUES

Revision 20260509

| PROPERTIES                                   | TYPICAL VALUES | UNITS | TEST METHODS         |
|----------------------------------------------|----------------|-------|----------------------|
| <b>MECHANICAL</b>                            |                |       |                      |
| Tensile Stress, yld, Type I, 50 mm/min       | 47             | MPa   | ASTM D638            |
| Tensile Stress, brk, Type I, 50 mm/min       | 48             | MPa   | ASTM D638            |
| Tensile Stress, yld, Type I, 5 mm/min        | 44             | MPa   | ASTM D638            |
| Tensile Stress, brk, Type I, 5 mm/min        | 50             | MPa   | ASTM D638            |
| Tensile Stress, yld, Type I, 10 mm/min       | 45             | MPa   | SABIC - Japan Method |
| Tensile Stress, brk, Type I, 10 mm/min       | 47             | MPa   | SABIC - Japan Method |
| Tensile Strain, yld, Type I, 50 mm/min       | 4              | %     | ASTM D638            |
| Tensile Strain, brk, Type I, 50 mm/min       | 116.6          | %     | ASTM D638            |
| Tensile Strain, yld, Type I, 5 mm/min        | 4.6            | %     | ASTM D638            |
| Tensile Strain, brk, Type I, 5 mm/min        | 122.4          | %     | ASTM D638            |
| Tensile Strain, yld, Type I, 10 mm/min       | 4.6            | %     | SABIC - Japan Method |
| Tensile Strain, brk, Type I, 10 mm/min       | 109.5          | %     | SABIC - Japan Method |
| Tensile Modulus, 50 mm/min                   | 1810           | MPa   | ASTM D638            |
| Tensile Modulus, 5 mm/min                    | 1830           | MPa   | ASTM D638            |
| Tensile Modulus, 10 mm/min                   | 1830           | MPa   | SABIC - Japan Method |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 70             | MPa   | ASTM D790            |
| Flexural Stress, brk, 1.3 mm/min, 50 mm span | 69             | MPa   | ASTM D790            |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 1660           | MPa   | ASTM D790            |
| Tensile Stress, yield, 5 mm/min              | 44             | MPa   | ISO 527              |
| Tensile Stress, break, 5 mm/min              | 43             | MPa   | ISO 527              |
| Tensile Stress, yield, 50 mm/min             | 47             | MPa   | ISO 527              |
| Tensile Stress, break, 50 mm/min             | 43             | MPa   | ISO 527              |
| Tensile Strain, yield, 5 mm/min              | 4.1            | %     | ISO 527              |
| Tensile Strain, break, 5 mm/min              | 106.8          | %     | ISO 527              |
| Tensile Strain, yield, 50 mm/min             | 4.6            | %     | ISO 527              |
| Tensile Strain, break, 50 mm/min             | 115.3          | %     | ISO 527              |
| Tensile Modulus, 1 mm/min                    | 1790           | MPa   | ISO 527              |
| Flexural Stress, yield, 2 mm/min             | 71             | MPa   | ISO 178              |
| Flexural Modulus, 2 mm/min                   | 1860           | MPa   | ISO 178              |
| <b>IMPACT</b>                                |                |       |                      |
| Izod Impact, notched, 23°C                   | 722            | J/m   | ASTM D256            |
| Izod Impact, notched, 0°C                    | 691            | J/m   | ASTM D256            |
| Izod Impact, notched, -10°C                  | 663            | J/m   | ASTM D256            |
| Izod Impact, notched, -20°C                  | 695            | J/m   | ASTM D256            |
| Izod Impact, notched, -30°C                  | 647            | J/m   | ASTM D256            |

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| PROPERTIES                                    | TYPICAL VALUES | UNITS    | TEST METHODS |
|-----------------------------------------------|----------------|----------|--------------|
| Izod Impact, notched, -40°C                   | 598            | J/m      | ASTM D256    |
| Instrumented Dart Impact Energy @ peak, 23°C  | 44             | J        | ASTM D3763   |
| Instrumented Impact, Energy @ peak, -20°C     | 41             | J        | ASTM D3763   |
| Instrumented Dart Impact Energy @ peak, -30°C | 49             | J        | ASTM D3763   |
| Instrumented Impact Energy @ peak, -40°C      | 49             | J        | ASTM D3763   |
| Instrumented Dart Impact Total Energy, 23°C   | 54             | J        | ASTM D3763   |
| Instrumented Impact Total Energy, -20°C       | 53             | J        | ASTM D3763   |
| Instrumented Dart Impact Total Energy, -30°C  | 61             | J        | ASTM D3763   |
| Instrumented Impact Total Energy, -40°C       | 59             | J        | ASTM D3763   |
| Izod Impact, notched 80*10*4 +23°C            | 55             | kJ/m²    | ISO 180/1A   |
| Izod Impact, notched 80*10*4 0°C              | 55             | kJ/m²    | ISO 180/1A   |
| Izod Impact, notched 80*10*4 -10°C            | 52             | kJ/m²    | ISO 180/1A   |
| Izod Impact, notched 80*10*4 -20°C            | 50             | kJ/m²    | ISO 180/1A   |
| Izod Impact, notched 80*10*4 -30°C            | 48             | kJ/m²    | ISO 180/1A   |
| Izod Impact, notched 80*10*4 -40°C            | 46             | kJ/m²    | ISO 180/1A   |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm    | 55             | kJ/m²    | ISO 179/1eA  |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm   | 47             | kJ/m²    | ISO 179/1eA  |
| <b>THERMAL</b>                                |                |          |              |
| Vicat Softening Temp, Rate B/50               | 119            | °C       | ASTM D1525   |
| HDT, 0.45 MPa, 3.2 mm, unannealed             | 108            | °C       | ASTM D648    |
| HDT, 1.82 MPa, 3.2mm, unannealed              | 83             | °C       | ASTM D648    |
| HDT, 0.45 MPa, 6.4 mm, unannealed             | 117            | °C       | ASTM D648    |
| HDT, 1.82 MPa, 6.4 mm, unannealed             | 95             | °C       | ASTM D648    |
| CTE, -40°C to 95°C, flow                      | 9.75E-05       | 1/°C     | ASTM E831    |
| CTE, -40°C to 95°C, xflow                     | 1.E-04         | 1/°C     | ASTM E831    |
| CTE, -30°C to 80°C, flow                      | 9.75E-05       | 1/°C     | ISO 11359-2  |
| CTE, -30°C to 80°C, xflow                     | 1.E-04         | 1/°C     | ISO 11359-2  |
| Vicat Softening Temp, Rate B/50               | 119            | °C       | ISO 306      |
| Vicat Softening Temp, Rate B/120              | 122            | °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         | 87             | °C       | ISO 75/Af    |
| <b>PHYSICAL</b>                               |                |          |              |
| Specific Gravity                              | 1.17           | -        | ASTM D792    |
| Specific Volume                               | 0.85           | cm³/g    | ASTM D792    |
| Density                                       | 1.17           | g/cm³    | ASTM D792    |
| Mold Shrinkage, flow, 3.2 mm                  | 1 – 1.2        | %        | SABIC method |
| <b>Melt Flow Rate</b>                         |                |          |              |
| 250°C/2.16 kgf                                | 3.8            | g/10 min | ASTM D1238   |
| 250°C/5.0 kgf                                 | 11.4           | g/10 min | ASTM D1238   |
| 265°C/2.16kgf                                 | 6              | g/10 min | ASTM D1238   |
| 266°C/5.0 kgf                                 | 19.7           | g/10 min | ASTM D1238   |
| 250°C/2.16 kg                                 | 3              | g/10 min | ISO 1133     |
| 250°C/5.0 kg                                  | 11             | g/10 min | ISO 1133     |
| Density                                       | 1.17           | g/cm³    | ISO 1183     |
| Water Absorption, (23°C/saturated)            | 0.28           | %        | ISO 62-1     |
| Moisture Absorption (23°C / 50% RH)           | 0.08           | %        | ISO 62       |

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| <b>Melt Volume Rate</b>      |                   |                         |              |
| 250°C/2.16 kg                | 3                 | cm <sup>3</sup> /10 min | ISO 1133     |
| 250°C/5.0 kg                 | 10                | cm <sup>3</sup> /10 min | ISO 1133     |
| 265°C/2.16 kg                | 6                 | cm <sup>3</sup> /10 min | ISO 1133     |
| 265°C/5.0 kg                 | 18                | cm <sup>3</sup> /10 min | ISO 1133     |
| <b>FLAME CHARACTERISTICS</b> |                   |                         |              |
| UL Yellow Card Link          | E121562-100980304 | -                       | -            |
| <b>INJECTION MOLDING</b>     |                   |                         |              |
| 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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