

## SABIC Innovative Plastics Xenoy<sup>®</sup> X4850 PBT+PC

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate/Polybutylene Terephthalate (PBT) Blend, Unreinforced , Polyester, TP , Polybutylene Terephthalate (PBT)

### Material Notes:

Xenoy X4850 is a hydrostable, high modulus, high ductile PC/PBT blend. Furthermore, this resin provides high chemical resistance, very low creep, low CTE, excellent fatigue and high heat dimensional stability. The X4850 could be positioned for body panels, safety equipment, housings, doorhandles, spring-loaded applications, medical device enclosures, outdoor sports equipment.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Xenoy-X4850-PBTPC.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Xenoy-X4850-PBTPC.php)

| Physical Properties            | Metric   | English  | Comments                                |
|--------------------------------|--|--|---|
| Specific Gravity               | 1.31 g/cc  | 1.31 g/cc  | ASTM D792                               |
| Density                        | 1.31 g/cc  | 0.0473 lb/in <sup>3</sup>  | ISO 1183                                |
| Moisture Absorption            | 0.140 %  | 0.140 %  | 23 <sup>°</sup> C / 50% RH; ISO 62      |
| Water Absorption at Saturation | 0.42 %   | 0.42 %   | ISO 62                                  |
| Linear Mold Shrinkage, Flow    | 0.0070 - 0.0090 cm/cm<br>@Thickness 3.20 mm                      | 0.0070 - 0.0090 in/in<br>@Thickness 0.126 in                     | SABIC Method                            |
| Melt Flow                      | 4.5 g/10 min<br>@Load 5.00 kg,<br>Temperature 266 <sup>°</sup> C | 4.5 g/10 min<br>@Load 11.0 lb,<br>Temperature 511 <sup>°</sup> F | ASTM D1238                              |
| Melt Index of Compound         | 4.0 g/10 min<br>@Load 5.00 kg,<br>Temperature 265 <sup>°</sup> C | 4.0 g/10 min<br>@Load 11.0 lb,<br>Temperature 509 <sup>°</sup> F | MVR [cm <sup>3</sup> /10 min]; ISO 1133 |

| Mechanical Properties     | Metric   | English   | Comments                     |
|---------------------------|----------|-----------|------------------------------|
| Hardness, H358/30         | 105 MPa  | 15200 psi | ISO 2039-1                   |
| Tensile Strength at Break | 45.0 MPa | 6530 psi  | 50 mm/min; ISO 527           |
|                           | 50.0 MPa | 7250 psi  | 5 mm/min; ISO 527            |
|                           | 55.0 MPa | 7980 psi  | Type I, 50 mm/min; ASTM D638 |
|                           | 60.0 MPa | 8700 psi  | Type I, 5 mm/min; ASTM D638  |
| Tensile Strength, Yield   | 58.0 MPa | 8410 psi  | Type I, 5 mm/min; ASTM D638  |
|                           | 58.0 MPa | 8410 psi  | 5 mm/min; ISO 527            |
|                           | 63.0 MPa | 9140 psi  | 50 mm/min; ISO 527           |

| Mechanical Properties        | 65.0 MPa<br>Metric       | 9430 psi<br>English        | Type I, 50 mm/min; ASTM D638<br>Comments |
|------------------------------|--------------------------|----------------------------|--|
| Elongation at Break          | 30 %                     | 30 %                       | 50 mm/min; ISO 527                       |
|                              | 80 %                     | 80 %                       | 5 mm/min; ISO 527                        |
|                              | 130 %                    | 130 %                      | Type I, 50 mm/min; ASTM D638             |
|                              | 140 %                    | 140 %                      | Type I, 5 mm/min; ASTM D638              |
| Elongation at Yield          | 3.4 %                    | 3.4 %                      | 5 mm/min; ISO 527                        |
|                              | 3.5 %                    | 3.5 %                      | 50 mm/min; ISO 527                       |
|                              | 3.7 %                    | 3.7 %                      | Type I, 50 mm/min; ASTM D638             |
|                              | 3.8 %                    | 3.8 %                      | Type I, 5 mm/min; ASTM D638              |
| Tensile Modulus              | 3.85 GPa                 | 558 ksi                    | 1 mm/min; ISO 527                        |
|                              | 4.00 GPa                 | 580 ksi                    | 5 mm/min; ASTM D638                      |
| Flexural Yield Strength      | 94.0 MPa                 | 13600 psi                  | 2 mm/min; ISO 178                        |
|                              | 99.0 MPa                 | 14400 psi                  | 1.3 mm/min, 50 mm span; ASTM D790        |
| Flexural Modulus             | 3.50 GPa                 | 508 ksi                    | 2 mm/min; ISO 178                        |
|                              | 3.70 GPa                 | 537 ksi                    | 1.3 mm/min, 50 mm span; ASTM D790        |
| Izod Impact, Notched         | 1.80 J/cm                | 3.37 ft-lb/in              | ASTM D256                                |
|                              | 1.00 J/cm                | 1.87 ft-lb/in              | ASTM D256                                |
|                              | @Temperature -30.0<br>°C | @Temperature -22.0<br>°F   |  |
|                              | 1.20 J/cm                | 2.25 ft-lb/in              | ASTM D256                                |
|                              | @Temperature 0.000<br>°C | @Temperature 32.0 °F       |  |
| Izod Impact, Notched (ISO)   | 20.0 kJ/m <sup>2</sup>   | 9.52 ft-lb/in <sup>2</sup> | 80*10*4; ISO 180/1A                      |
|                              | 7.00 kJ/m <sup>2</sup>   | 3.33 ft-lb/in <sup>2</sup> | 80*10*4; ISO 180/1A                      |
|                              | @Temperature -30.0<br>°C | @Temperature -22.0<br>°F   |  |
|                              | 11.0 kJ/m <sup>2</sup>   | 5.23 ft-lb/in <sup>2</sup> | 80*10*4; ISO 180/1A                      |
|                              | @Temperature 0.000<br>°C | @Temperature 32.0 °F       |  |
| Izod Impact, Unnotched (ISO) | NB                       | NB                         | 80*10*4; ISO 180/1U                      |

| Mechanical Properties          | Metric                   | English                    | Comments                           |
|--------------------------------|--------------------------|----------------------------|------------------------------------|
|                                | @Temperature -30.0<br>°C | @Temperature -22.0<br>°F   |                                    |
| Charpy Impact Unnotched        | NB                       | NB                         | Edgew 80*10*4 sp=62mm; ISO 179/1eU |
|                                | NB                       | NB                         | Edgew 80*10*4 sp=62mm; ISO 179/1eU |
|                                | @Temperature -30.0<br>°C | @Temperature -22.0<br>°F   |                                    |
| Charpy Impact, Notched         | 2.00 J/cm <sup>2</sup>   | 9.52 ft-lb/in <sup>2</sup> | Edgew 80*10*4 sp=62mm; ISO 179/1eA |
|                                | 1.10 J/cm <sup>2</sup>   | 5.23 ft-lb/in <sup>2</sup> | Edgew 80*10*4 sp=62mm; ISO 179/1eA |
|                                | @Temperature -30.0<br>°C | @Temperature -22.0<br>°F   |                                    |
| Dart Drop, Total Energy        | 60.0 J                   | 44.3 ft-lb                 | ASTM D3763                         |
|                                | @Temperature 23.0<br>°C  | @Temperature 73.4 °F       |                                    |
|                                | 60.0 J                   | 44.3 ft-lb                 | ASTM D3763                         |
|                                | @Temperature -20.0<br>°C | @Temperature -4.00<br>°F   |                                    |
| Impact Test                    | 100 J                    | 73.8 ft-lb                 | Multiaxial Impact; ISO 6603        |
| Taber Abrasion, mg/1000 Cycles | 30                       | 30                         | CS-17, 1 kg; SABIC Method          |

| Thermal Properties                             | Metric                          | English                                | Comments                         |
|--|---------------------------------|--|----------------------------------|
| CTE, linear, Parallel to Flow                  | 52.0 µm/m-°C                    | 28.9 µin/in-°F                         | ASTM E 831                       |
|  | @Temperature -40.0 -<br>40.0 °C | @Temperature -40.0 -<br>104 °F         |                                  |
|  | 63.0 µm/m-°C                    | 35.0 µin/in-°F                         | ISO 11359-2                      |
|  | @Temperature -30.0 -<br>80.0 °C | @Temperature -22.0 -<br>176 °F         |                                  |
| CTE, linear, Transverse to Flow                | 75.0 µm/m-°C                    | 41.7 µin/in-°F                         | ASTM E 831                       |
|  | @Temperature -40.0 -<br>40.0 °C | @Temperature -40.0 -<br>104 °F         |                                  |
|  | 81.0 µm/m-°C                    | 45.0 µin/in-°F                         | ISO 11359-2                      |
|  | @Temperature -30.0 -<br>80.0 °C | @Temperature -22.0 -<br>176 °F         |                                  |
| Thermal Conductivity                           | 0.200 W/m-K                     | 1.39 BTU-in/hr-ft <sup>2</sup> -<br>°F | ISO 8302                         |
| Deflection Temperature at 0.46 MPa<br>(66 psi) | 121 °C                          | 250 °F                                 | Flatw 80*10*4 sp=64mm; ISO 75/Bf |

| Thermal Properties                          | Metric °C          | English             | Comments                         |
|---|--------------------|---------------------|----------------------------------|
|   | @Thickness 3.20 mm | @Thickness 0.126 in | unannealed; ASTM D648            |
| Deflection Temperature at 1.8 MPa (264 psi) | 99.0 °C            | 210 °F              | Flatw 80*10*4 sp=64mm; ISO 75/Af |
|   | 101 °C             | 214 °F              | unannealed; ASTM D648            |
|   | @Thickness 3.20 mm | @Thickness 0.126 in |                                  |
| Vicat Softening Point                       | 133 °C             | 271 °F              | Rate B/50; ISO 306               |
|   | 134 °C             | 273 °F              | Rate B/50; ASTM D1525            |
|   | 135 °C             | 275 °F              | Rate B/120; ISO 306              |

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