

## SABIC Innovative Plastics Valox® V4860HR PBT

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT)

### Material Notes:

30% glass reinforced PBT, UL94 V-0 rated, Hydrolytically stable, Impact Modified.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Valox-V4860HR-PBT.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-V4860HR-PBT.php)

| Physical Properties               | Metric                                                 | English                                                | Comments                                |
|-----------------------------------|--------------------------------------------------------|--------------------------------------------------------|-----------------------------------------|
| Specific Gravity                  | 1.64 g/cc                                              | 1.64 g/cc                                              | ASTM D792                               |
| Density                           | 1.64 g/cc                                              | 0.0592 lb/in <sup>3</sup>                              | ISO 1183                                |
| Moisture Absorption               | 0.0600 %                                               | 0.0600 %                                               | 23Â°C / 50% RH; ISO 62                  |
| Water Absorption at Saturation    | 0.19 %                                                 | 0.19 %                                                 | ISO 62                                  |
| Linear Mold Shrinkage, Flow       | 0.0050 - 0.0070 cm/cm<br>@Thickness 3.20 mm            | 0.0050 - 0.0070 in/in<br>@Thickness 0.126 in           | SABIC Method                            |
| Linear Mold Shrinkage, Transverse | 0.0050 - 0.010 cm/cm<br>@Thickness 3.20 mm             | 0.0050 - 0.010 in/in<br>@Thickness 0.126 in            | SABIC Method                            |
| Melt Flow                         | 17.8 g/10 min<br>@Load 5.00 kg,<br>Temperature 250 Â°C | 17.8 g/10 min<br>@Load 11.0 lb,<br>Temperature 482 Â°F | ASTM D1238                              |
| Melt Index of Compound            | 12 g/10 min<br>@Load 5.00 kg,<br>Temperature 250 Â°C   | 12 g/10 min<br>@Load 11.0 lb,<br>Temperature 482 Â°F   | MVR [cm <sup>3</sup> /10 min]; ISO 1133 |

| Mechanical Properties     | Metric  | English   | Comments                                  |
|---------------------------|---------|-----------|-------------------------------------------|
| Tensile Strength at Break | 110 MPa | 16000 psi | 5 mm/min; ISO 527                         |
|                           | 114 MPa | 16500 psi | Type I, 5 mm/min; ASTM D638               |
| Tensile Strength, Yield   | 111 MPa | 16100 psi | 5 mm/min; ISO 527                         |
|                           | 116 MPa | 16800 psi | Type I, 5 mm/min; ASTM D638               |
| Elongation at Break       | 2.2 %   | 2.2 %     | 5 mm/min; ISO 527                         |
|                           | 2.3 %   | 2.3 %     | Type I, 5 mm/min; ASTM D638               |
|                           | 2.9 %   | 2.9 %     | Flexural Strain, break, 2 mm/min; ISO 178 |
| Elongation at Yield       | 2.1 %   | 2.1 %     | 5 mm/min; ISO 527                         |

| Mechanical Properties      | Metric                   | English                  | Comments                           |
|----------------------------|--------------------------|--------------------------|------------------------------------|
| Tensile Modulus            | 9.44 GPa                 | 1370 ksi                 | 1 mm/min; ISO 527                  |
|                            | 9.75 GPa                 | 1410 ksi                 | 5 mm/min; ASTM D638                |
| Flexural Strength          | 182 MPa                  | 26400 psi                | 2 mm/min; ISO 178                  |
| Flexural Yield Strength    | 174 MPa                  | 25200 psi                | 1.3 mm/min, 50 mm span; ASTM D790  |
|                            | 183 MPa                  | 26500 psi                | 2 mm/min; ISO 178                  |
| Flexural Modulus           | 6.74 GPa                 | 978 ksi                  | 1.3 mm/min, 50 mm span; ASTM D790  |
|                            | 7.87 GPa                 | 1140 ksi                 | 2 mm/min; ISO 178                  |
| Izod Impact, Notched       | 0.900 J/cm               | 1.69 ft-lb/in            | ASTM D256                          |
|                            | 0.740 J/cm               | 1.39 ft-lb/in            | ASTM D256                          |
|                            | @Temperature -30.0<br>°C | @Temperature -22.0<br>°F |                                    |
| Izod Impact, Notched (ISO) | 10.0 kJ/mÂ²              | 4.76 ft-lb/inÂ²          | 80*10*4; ISO 180/1A                |
|                            | 8.00 kJ/mÂ²              | 3.81 ft-lb/inÂ²          | 80*10*4; ISO 180/1A                |
|                            | @Temperature -30.0<br>°C | @Temperature -22.0<br>°F |                                    |
| Charpy Impact, Notched     | 1.00 J/cmÂ²              | 4.76 ft-lb/inÂ²          | Edgew 80*10*4 sp=62mm; ISO 179/1eA |
| Dart Drop, Total Energy    | 13.0 J                   | 9.59 ft-lb               | ASTM D3763                         |
|                            | @Temperature 23.0<br>°C  | @Temperature 73.4 °F     |                                    |

| Thermal Properties              | Metric                           | English                         | Comments    |
|---------------------------------|----------------------------------|---------------------------------|-------------|
| CTE, linear, Parallel to Flow   | 22.8 Âµm/m-Â°C                   | 12.7 Âµin/in-Â°F                | ISO 11359-2 |
|                                 | @Temperature 23.0 -<br>80.0 Â°C  | @Temperature 73.4 -<br>176 Â°F  |             |
|                                 | 23.5 Âµm/m-Â°C                   | 13.1 Âµin/in-Â°F                | ASTM E 831  |
|                                 | @Temperature -40.0 -<br>95.0 Â°C | @Temperature -40.0 -<br>203 Â°F |             |
| CTE, linear, Transverse to Flow | 114 Âµm/m-Â°C                    | 63.3 Âµin/in-Â°F                | ASTM E 831  |
|                                 | @Temperature -40.0 -<br>95.0 Â°C | @Temperature -40.0 -<br>203 Â°F |             |
|                                 | 119 Âµm/m-Â°C                    | 66.1 Âµin/in-Â°F                | ISO 11359-2 |

| Thermal Properties                             | Metric<br>@Temperature 23.0 -<br>30.0 Â°C | English<br>@Temperature 73.4 -<br>119 Â°F | Comments                         |
|------------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------|
| Hot Ball Pressure Test                         | <= 75.0 Â°C                               | <= 167 Â°F                                | IEC 60695-10-2                   |
| Deflection Temperature at 0.46 MPa<br>(66 psi) | 221 Â°C<br>@Thickness 6.40 mm             | 430 Â°F<br>@Thickness 0.252 in            | unannealed; ASTM D648            |
| Deflection Temperature at 1.8 MPa<br>(264 psi) | 188 Â°C                                   | 370 Â°F                                   | Flatw 80*10*4 sp=64mm; ISO 75/Af |
|                                                | 197 Â°C<br>@Thickness 3.20 mm             | 387 Â°F<br>@Thickness 0.126 in            | unannealed; ASTM D648            |
|                                                | 205 Â°C<br>@Thickness 6.40 mm             | 401 Â°F<br>@Thickness 0.252 in            | unannealed; ASTM D648            |
| Vicat Softening Point                          | 175 Â°C                                   | 347 Â°F                                   | Rate B/120; ISO 306              |
|                                                | 176 Â°C                                   | 349 Â°F                                   | Rate B/50; ASTM D1525            |
|                                                | 176 Â°C                                   | 349 Â°F                                   | Rate B/50; ISO 306               |
| Flammability, UL94                             | V-0<br>@Thickness 0.800 mm                | V-0<br>@Thickness 0.0315 in               | UL 94 by SABIC-IP                |

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China