

## SABIC Innovative Plastics Valox® DR48 - CS1049 PBT (Europe-Africa-Middle East)

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

### Material Notes:

VALOX DR48 is a 15 % glass reinforced, flame retardant injection moulding PBT resin. Applications: lamp sockets, connectors, switches, electrical housings and bases, bobbins, trimmers and electromotor housings.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Valox-DR48-CS1049-PBT-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-DR48-CS1049-PBT-Europe-Africa-Middle-East.php)

| Physical Properties               | Metric                                | English                               | Comments                                |
|-----------------------------------|---------------------------------------|---------------------------------------|---|
| Density                           | 1.50 g/cc                             | 0.0542 lb/in <sup>3</sup>             | ISO 1183                                |
| Filler Content                    | 15 %                                  | 15 %                                  | ASTM D229                               |
| Moisture Absorption               | 0.0700 %                              | 0.0700 %                              | 23Â°C / 50% RH; ISO 62                  |
| Water Absorption at Saturation    | 0.17 %                                | 0.17 %                                | ISO 62                                  |
| Linear Mold Shrinkage, Flow       | 0.0050 - 0.0080 cm/cm                 | 0.0050 - 0.0080 in/in                 | on Tensile Bar; SABIC Method            |
| Linear Mold Shrinkage, Transverse | 0.0060 - 0.0090 cm/cm                 | 0.0060 - 0.0090 in/in                 | on Tensile Bar; SABIC Method            |
| Melt Index of Compound            | 8.0 g/10 min                          | 8.0 g/10 min                          | MVR [cm <sup>3</sup> /10 min]; ISO 1133 |
|                                   | @Load 2.16 kg,<br>Temperature 250 Â°C | @Load 4.76 lb,<br>Temperature 482 Â°F |   |
|                                   | 24 g/10 min                           | 24 g/10 min                           | MVR [cm <sup>3</sup> /10 min]; ISO 1133 |
|                                   | @Load 5.00 kg,<br>Temperature 250 Â°C | @Load 11.0 lb,<br>Temperature 482 Â°F |   |

| Mechanical Properties     | Metric   | English   | Comments          |
|---------------------------|----------|-----------|-------------------|
| Hardness, Rockwell R      | 120      | 120       | ISO 2039-2        |
| Tensile Strength at Break | 102 MPa  | 14800 psi | 5 mm/min; ISO 527 |
| Tensile Strength, Yield   | 102 MPa  | 14800 psi | 5 mm/min; ISO 527 |
| Elongation at Break       | 3.0 %    | 3.0 %     | 5 mm/min; ISO 527 |
| Elongation at Yield       | 3.0 %    | 3.0 %     | 5 mm/min; ISO 527 |
| Tensile Modulus           | 6.30 GPa | 914 ksi   | 1 mm/min; ISO 527 |
| Flexural Strength         | 150 MPa  | 21800 psi | 2 mm/min; ISO 178 |
| Flexural Modulus          | 5.20 GPa | 754 ksi   | 2 mm/min; ISO 178 |

| Izod Impact, Notched (ISO)<br>Mechanical Properties | Metric  | English  | Comments                           |
|---|---|--|------------------------------------|
|   | 5.00 kJ/m <sup>2</sup><br>@Temperature 0.000<br>°C  | 2.38 ft-lb/in <sup>2</sup><br>@Temperature 32.0 °F     | 80*10*4; ISO 180/1A                |
|   | 5.00 kJ/m <sup>2</sup><br>@Temperature -30.0<br>°C  | 2.38 ft-lb/in <sup>2</sup><br>@Temperature -22.0<br>°F | 80*10*4; ISO 180/1A                |
| Izod Impact, Unnotched (ISO)                        | 30.0 kJ/m <sup>2</sup>                              | 14.3 ft-lb/in <sup>2</sup>                             | 80*10*4; ISO 180/1U                |
|   | 27.0 kJ/m <sup>2</sup><br>@Temperature -30.0<br>°C  | 12.8 ft-lb/in <sup>2</sup><br>@Temperature -22.0<br>°F | 80*10*4; ISO 180/1U                |
| Charpy Impact, Notched                              | 0.500 J/cm <sup>2</sup>                             | 2.38 ft-lb/in <sup>2</sup>                             | Edgew 80*10*4 sp=62mm; ISO 179/1eA |
|   | 0.500 J/cm <sup>2</sup>                             | 2.38 ft-lb/in <sup>2</sup>                             | ISO 179/2C                         |
|   | 0.400 J/cm <sup>2</sup><br>@Temperature -30.0<br>°C | 1.90 ft-lb/in <sup>2</sup><br>@Temperature -22.0<br>°F | Edgew 80*10*4 sp=62mm; ISO 179/1eA |
|   | 0.500 J/cm <sup>2</sup><br>@Temperature -30.0<br>°C | 2.38 ft-lb/in <sup>2</sup><br>@Temperature -22.0<br>°F | ISO 179/2C                         |
| Taber Abrasion, mg/1000 Cycles                      | 16  | 16   | CS-17, 1 kg; SABIC Method          |

| Thermal Properties              | Metric                          | English                        | Comments    |
|---------------------------------|---------------------------------|--------------------------------|-------------|
| CTE, linear, Parallel to Flow   | 25.7 µm/m-°C                    | 14.3 µin/in-°F                 | ISO 11359-2 |
|                                 | @Temperature 23.0 -<br>150 °C   | @Temperature 73.4 -<br>302 °F  |             |
|                                 | 28.3 µm/m-°C                    | 15.7 µin/in-°F                 | ISO 11359-2 |
|                                 | @Temperature -40.0 -<br>40.0 °C | @Temperature -40.0 -<br>104 °F |             |
| CTE, linear, Transverse to Flow | 35.0 µm/m-°C                    | 19.4 µin/in-°F                 | ISO 11359-2 |
|                                 | @Temperature 23.0 -<br>80.0 °C  | @Temperature 73.4 -<br>176 °F  |             |
|                                 | 69.5 µm/m-°C                    | 38.6 µin/in-°F                 | ISO 11359-2 |
|                                 | @Temperature -40.0 -<br>40.0 °C | @Temperature -40.0 -<br>104 °F |             |
|                                 | 95.0 µm/m-°C                    | 52.8 µin/in-°F                 | ISO 11359-2 |
|                                 | @Temperature 23.0 -             | @Temperature 73.4 -            |             |

| Thermal Properties                          | 80.0 °C<br>Metric          | 176 °F<br>English          | Comments                         |
|---|----------------------------|----------------------------|----------------------------------|
|   | 149 µm/m-°C                | 82.8 µin/in-°F             | ISO 11359-2                      |
|   | @Temperature 23.0 - 150 °C | @Temperature 73.4 - 302 °F |                                  |
| Thermal Conductivity                        | 0.190 W/m-K                | 1.32 BTU-in/hr-ft²-°F      | ISO 8302                         |
| Deflection Temperature at 1.8 MPa (264 psi) | 170 °C                     | 338 °F                     | Flatw 80*10*4 sp=64mm; ISO 75/Af |
| Vicat Softening Point                       | 200 °C                     | 392 °F                     | Rate B/120; ISO 306              |
| UL RTI, Electrical                          | 120 °C                     | 248 °F                     | UL 746B                          |
| UL RTI, Mechanical with Impact              | 120 °C                     | 248 °F                     | UL 746B                          |
| UL RTI, Mechanical without Impact           | 140 °C                     | 284 °F                     | UL 746B                          |
| Flammability, UL94                          | V-0                        | V-0                        | UL 94                            |
|   | @Thickness 0.890 mm        | @Thickness 0.0350 in       |                                  |
|   | 5VA                        | 5VA                        | UL 94                            |
|   | @Thickness 3.00 mm         | @Thickness 0.118 in        |                                  |
| Oxygen Index                                | 31 %                       | 31 %                       | ISO 4589                         |
| Glow Wire Test                              | 960 °C                     | 1760 °F                    | IEC 60695-2-12                   |
|   | @Thickness 1.00 mm         | @Thickness 0.0394 in       |                                  |

| Electrical Properties | Metric                    | English                   | Comments       |
|-----------------------|---------------------------|---------------------------|----------------|
| Volume Resistivity    | 1.00e+15 ohm-cm           | 1.00e+15 ohm-cm           | ASTM D257      |
|                       | 1.00e+15 ohm-cm           | 1.00e+15 ohm-cm           | IEC 60093      |
| Surface Resistance    | >= 1.00e+15 ohm           | >= 1.00e+15 ohm           | ROA; IEC 60093 |
| Dielectric Constant   | 3.1                       | 3.1                       | ASTM D150      |
|                       | @Frequency 1.00e+6 Hz     | @Frequency 1.00e+6 Hz     |                |
|                       | 3.1                       | 3.1                       | IEC 60250      |
|                       | @Frequency 1.00e+6 Hz     | @Frequency 1.00e+6 Hz     |                |
|                       | 3.2                       | 3.2                       | IEC 60250      |
|                       | @Frequency 50.0 - 60.0 Hz | @Frequency 50.0 - 60.0 Hz |                |
|                       | 16.0 kV/mm                | 406 kV/in                 |                |

| Dielectric Strength<br>Electrical Properties | Metric<br>@Thickness 3.20 mm | English<br>@Thickness 0.126 in | in oil; ASTM D149<br>Comments |
|--|------------------------------|--------------------------------|-------------------------------|
|  | 16.0 kV/mm                   | 406 kV/in                      | in oil; IEC 60243-1           |
|  | @Thickness 3.20 mm           | @Thickness 0.126 in            |                               |
|  | 19.0 kV/mm                   | 483 kV/in                      | short time; IEC 60243-1       |
|  | @Thickness 1.00 mm           | @Thickness 0.0394 in           |                               |
|  | 23.0 kV/mm                   | 584 kV/in                      | in oil; ASTM D149             |
|  | @Thickness 1.60 mm           | @Thickness 0.0630 in           |                               |
|  | 23.0 kV/mm                   | 584 kV/in                      | in oil; IEC 60243-1           |
|  | @Thickness 1.60 mm           | @Thickness 0.0630 in           |                               |
|  | 29.0 kV/mm                   | 737 kV/in                      | in oil; IEC 60243-1           |
|  | @Thickness 0.800 mm          | @Thickness 0.0315 in           |                               |
|  | 29.0 kV/mm                   | 737 kV/in                      | in oil; ASTM D149             |
|  | @Thickness 0.800 mm          | @Thickness 0.0315 in           |                               |
| Dissipation Factor                           | 0.0010                       | 0.0010                         | IEC 60250                     |
|  | @Frequency 50.0 - 60.0 Hz    | @Frequency 50.0 - 60.0 Hz      |                               |
|  | 0.012                        | 0.012                          | IEC 60250                     |
|  | @Frequency 1.00e+6 Hz        | @Frequency 1.00e+6 Hz          |                               |
|  | 0.012                        | 0.012                          | ASTM D150                     |
|  | @Frequency 1.00e+6 Hz        | @Frequency 1.00e+6 Hz          |                               |
| Arc Resistance                               | 60 - 120 sec                 | 60 - 120 sec                   | Tungsten; ASTM D495           |
| Comparative Tracking Index                   | >= 150 V                     | >= 150 V                       | IEC 60112                     |
|  | 175 V                        | 175 V                          | IEC 60112                     |
|  | 175 - 250 V                  | 175 - 250 V                    | UL 746A                       |
| Hot Wire Ignition, HWI                       | 15 - 30 sec                  | 15 - 30 sec                    | UL 746A                       |
| High Amp Arc Ignition, HAI                   | >= 120 arcs                  | >= 120 arcs                    | UL 746A                       |
| High Voltage Arc-Tracking Rate, HVTR         | >= 150 mm/min                | >= 5.91 in/min                 | UL 746A                       |

| Descriptive Properties              | Value  | Comments       |
|-------------------------------------|--------|----------------|
| Ball Pressure Test, 125Å°C +/- 2Å°C | PASSES | IEC 60695-10-2 |

| Descriptive Properties | Value | Comments |
|------------------------|-------|----------|
|------------------------|-------|----------|

## 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