

# VALOX™ RESIN 3007

REGION EUROPE

## DESCRIPTION

VALOX 3007 is an unreinforced, impact modified, non flame retardant PBT injection moulding resin. Applications: flexible hinge connectors.

## TYPICAL PROPERTY VALUES

Revision 20180807

| PROPERTIES                                  | TYPICAL VALUES | UNITS      | TEST METHODS   |
|---------------------------------------------|----------------|------------|----------------|
| <b>MECHANICAL</b>                           |                |            |                |
| Tensile Stress, yield, 50 mm/min            | 50             | MPa        | ISO 527        |
| Tensile Stress, break, 50 mm/min            | 25             | MPa        | ISO 527        |
| Tensile Strain, yield, 50 mm/min            | 3              | %          | ISO 527        |
| Tensile Strain, break, 50 mm/min            | 50             | %          | ISO 527        |
| Tensile Modulus, 1 mm/min                   | 2300           | MPa        | ISO 527        |
| Flexural Stress, yield, 2 mm/min            | 80             | MPa        | ISO 178        |
| Flexural Modulus, 2 mm/min                  | 2200           | MPa        | ISO 178        |
| Ball Indentation Hardness, H358/30          | 105            | MPa        | ISO 2039-1     |
| <b>IMPACT</b>                               |                |            |                |
| Izod Impact, unnotched 80*10*4 +23°C        | NB             | kJ/m²      | ISO 180/1U     |
| Izod Impact, unnotched 80*10*4 -30°C        | NB             | kJ/m²      | ISO 180/1U     |
| Izod Impact, notched 80*10*4 +23°C          | 6              | kJ/m²      | ISO 180/1A     |
| Izod Impact, notched 80*10*4 -30°C          | 5              | kJ/m²      | ISO 180/1A     |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm  | 7              | kJ/m²      | ISO 179/1eA    |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm | 6              | kJ/m²      | ISO 179/1eA    |
| Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm  | NB             | kJ/m²      | ISO 179/1eU    |
| Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm | NB             | kJ/m²      | ISO 179/1eU    |
| <b>THERMAL</b>                              |                |            |                |
| CTE, 23°C to 80°C, flow                     | 1.3E-04        | 1/°C       | ISO 11359-2    |
| CTE, 23°C to 80°C, xflow                    | 1.3E-04        | 1/°C       | ISO 11359-2    |
| Ball Pressure Test, 125°C +/- 2°C           | PASSES         | -          | IEC 60695-10-2 |
| Vicat Softening Temp, Rate B/50             | 173            | °C         | ISO 306        |
| Vicat Softening Temp, Rate B/120            | 170            | °C         | ISO 306        |
| HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm     | 120            | °C         | ISO 75/Be      |
| HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm     | 50             | °C         | ISO 75/Ae      |
| Relative Temp Index, Elec                   | 75             | °C         | UL 746B        |
| Relative Temp Index, Mech w/impact          | 75             | °C         | UL 746B        |
| Relative Temp Index, Mech w/o impact        | 75             | °C         | UL 746B        |
| <b>PHYSICAL</b>                             |                |            |                |
| Mold Shrinkage on Tensile Bar, flow         | 1.1 – 1.8      | %          | SABIC method   |
| Mold Shrinkage on Tensile Bar, xflow        | 0.9 – 1.8      | %          | SABIC method   |
| Density                                     | 1.31           | g/cm³      | ISO 1183       |
| Water Absorption, (23°C/saturated)          | 0.34           | %          | ISO 62-1       |
| Moisture Absorption (23°C / 50% RH)         | 0.08           | %          | ISO 62         |
| Melt Volume Rate, MVR at 250°C/1.2 kg       | 8              | cm³/10 min | ISO 1133       |

| PROPERTIES                                       | TYPICAL VALUES | UNITS | TEST METHODS   |
|--------------------------------------------------|----------------|-------|----------------|
| <b>ELECTRICAL</b>                                |                |       |                |
| Volume Resistivity                               | >1.E+15        | Ω.cm  | IEC 60093      |
| Surface Resistivity, ROA                         | 1.E+16         | Ω     | IEC 60093      |
| Dielectric Strength, in oil, 0.8 mm              | 29             | kV/mm | IEC 60243-1    |
| Dielectric Strength, in oil, 1.6 mm              | 23             | kV/mm | IEC 60243-1    |
| Dielectric Strength, in oil, 3.2 mm              | 16             | kV/mm | IEC 60243-1    |
| Relative Permittivity, 1 MHz                     | 3              | -     | IEC 60250      |
| Dissipation Factor, 50/60 Hz                     | 0.002          | -     | IEC 60250      |
| Dissipation Factor, 1 MHz                        | 0.02           | -     | IEC 60250      |
| Comparative Tracking Index                       | 600            | V     | IEC 60112      |
| Comparative Tracking Index, M                    | 350            | V     | IEC 60112      |
| Relative Permittivity, 50/60 Hz                  | 3              | -     | IEC 60250      |
| <b>FLAME CHARACTERISTICS</b>                     |                |       |                |
| UL Recognized, 94HB Flame Class Rating           | 1.5            | mm    | UL 94          |
| UL Recognized, 94HB Flame Class Rating 2nd value | 3              | mm    | UL 94          |
| Glow Wire Flammability Index 750°C, passes at    | 3.2            | mm    | IEC 60695-2-12 |
| Glow Wire Flammability Index 850°C, passes at    | 1              | mm    | IEC 60695-2-12 |
| <b>INJECTION MOLDING</b>                         |                |       |                |
| Drying Temperature                               | 110 – 120      | °C    |                |
| Drying Time                                      | 2 – 4          | Hrs   |                |
| Maximum Moisture Content                         | 0.02           | %     |                |
| Melt Temperature                                 | 250 – 270      | °C    |                |
| Nozzle Temperature                               | 240 – 260      | °C    |                |
| Front - Zone 3 Temperature                       | 245 – 265      | °C    |                |
| Middle - Zone 2 Temperature                      | 240 – 255      | °C    |                |
| Rear - Zone 1 Temperature                        | 230 – 245      | °C    |                |
| Hopper Temperature                               | 40 – 60        | °C    |                |
| Mold Temperature                                 | 40 – 100       | °C    |                |

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