

## VALOX™ RESIN 325F

REGION EUROPE

### DESCRIPTION

VALOX 325F is compliant with food contact regulations acc. to EC Reg. No. 10/2011. VALOX 325F is a general purpose, unreinforced PBT injection moulding resin which contains internal mold release. Available in natural colour only (1001).

### TYPICAL PROPERTY VALUES

Revision 20181115

| PROPERTIES                                  | TYPICAL VALUES | UNITS             | TEST METHODS   |
|---------------------------------------------|----------------|-------------------|----------------|
| <b>MECHANICAL</b>                           |                |                   |                |
| Taber Abrasion, CS-17, 1 kg                 | 9              | mg/1000cy         | SABIC method   |
| Tensile Stress, yield, 50 mm/min            | 55             | MPa               | ISO 527        |
| Tensile Strain, yield, 50 mm/min            | 3              | %                 | ISO 527        |
| Tensile Strain, break, 50 mm/min            | 60             | %                 | ISO 527        |
| Tensile Modulus, 1 mm/min                   | 2400           | MPa               | ISO 527        |
| Flexural Stress, yield, 2 mm/min            | 80             | MPa               | ISO 178        |
| Flexural Modulus, 2 mm/min                  | 2300           | MPa               | ISO 178        |
| Ball Indentation Hardness, H358/30          | 85             | MPa               | ISO 2039-1     |
| Hardness, Rockwell R                        | 117            | -                 | ISO 2039-2     |
| <b>IMPACT</b>                               |                |                   |                |
| Izod Impact, unnotched 80°10°4 +23°C        | NB             | kJ/m <sup>2</sup> | ISO 180/1U     |
| Izod Impact, unnotched 80°10°4 -30°C        | NB             | kJ/m <sup>2</sup> | ISO 180/1U     |
| Izod Impact, notched 80°10°4 +23°C          | 5              | kJ/m <sup>2</sup> | ISO 180/1A     |
| Izod Impact, notched 80°10°4 -30°C          | 5              | kJ/m <sup>2</sup> | ISO 180/1A     |
| Charpy 23°C, V-notch Edgew 80°10°4 sp=62mm  | 4              | kJ/m <sup>2</sup> | ISO 179/1eA    |
| Charpy Impact, notched, 23°C                | 7              | kJ/m <sup>2</sup> | ISO 179/2C     |
| Charpy -30°C, V-notch Edgew 80°10°4 sp=62mm | 4              | kJ/m <sup>2</sup> | ISO 179/1eA    |
| Charpy 23°C, Unnotch Edgew 80°10°4 sp=62mm  | NB             | kJ/m <sup>2</sup> | ISO 179/1eU    |
| Charpy -30°C, Unnotch Edgew 80°10°4 sp=62mm | NB             | kJ/m <sup>2</sup> | ISO 179/1eU    |
| <b>THERMAL</b>                              |                |                   |                |
| Thermal Conductivity                        | 0.16           | W/m·°C            | ISO 8302       |
| 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 A/50             | 220            | °C                | ISO 306        |
| Vicat Softening Temp, Rate B/50             | 175            | °C                | ISO 306        |
| Vicat Softening Temp, Rate B/120            | 175            | °C                | ISO 306        |
| HDT/Be, 0.45MPa Edgew 120°10°4 sp=100mm     | 110            | °C                | ISO 75/Be      |
| HDT/Ae, 1.8 MPa Edgew 120°10°4 sp=100mm     | 50             | °C                | ISO 75/Ae      |
| Relative Temp Index, Elec                   | 120            | °C                | UL 746B        |
| Relative Temp Index, Mech w/impact          | 120            | °C                | UL 746B        |
| Relative Temp Index, Mech w/o impact        | 140            | °C                | UL 746B        |
| <b>PHYSICAL</b>                             |                |                   |                |
| Mold Shrinkage on Tensile Bar, flow         | 1.1 – 1.8      | %                 | SABIC method   |

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CHEMISTRY THAT MATTERS™



| PROPERTIES                                       | TYPICAL VALUES | UNITS                   | TEST METHODS   |
|--------------------------------------------------|----------------|-------------------------|----------------|
| Mold Shrinkage on Tensile Bar, xflow             | 0.9 – 1.8      | %                       | SABIC method   |
| Density                                          | 1.31           | g/cm <sup>3</sup>       | 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/2.16 kg           | 18             | cm <sup>3</sup> /10 min | ISO 1133       |
| <b>ELECTRICAL</b>                                |                |                         |                |
| Volume Resistivity                               | >1.E+15        | Ω.cm                    | IEC 60093      |
| Surface Resistivity, ROA                         | >1.E+15        | Ω                       | IEC 60093      |
| Dielectric Strength, shorttime, 1.0mm            | 16             | kV/mm                   | IEC 60243-1    |
| Dielectric Strength, in oil, 3.2 mm              | 18             | kV/mm                   | IEC 60243-1    |
| Relative Permittivity, 1 MHz                     | 3.1            | -                       | 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      |
| Relative Permittivity, 50/60 Hz                  | 3.3            | -                       | 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 850°C, passes at    | 1              | mm                      | IEC 60695-2-12 |
| Glow Wire Flammability Index 960°C, passes at    | 3              | 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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