

# Durethan<sup>®</sup> BG30XH3.0

## PA6—(GF+GB)30

Injection Molding, 30% Glass Fiber/Glass Beads, Heat Stabilized, Low Warpage

Print Date: 2024-08-24

| PROPERTIES                                   | TYPICAL DATA      | UNIT              | TEST METHOD     |
|--|-------------------|-------------------|-----------------|
| <b>RHEOLOGICAL PROPERTIES</b>                |                   |                   |                 |
|  | <b>DRY / COND</b> |                   |                 |
| Molding shrinkage (parallel)                 | 0.5 / *           | %                 | ISO 294-4       |
| Molding shrinkage (normal)                   | 0.8 / *           | %                 | ISO 294-4       |
| <b>MECHANICAL PROPERTIES</b>                 |                   |                   |                 |
|  | <b>DRY / COND</b> |                   |                 |
| Tensile modulus                              | 6400 / 3100       | MPa               | ISO 527-1/-2    |
| Stress at break                              | 120 / 65          | MPa               | ISO 527-1/-2    |
| Strain at break                              | 4 / 10            | %                 | ISO 527-1/-2    |
| Flexural modulus                             | 5800 / 2800       | MPa               | ISO 178         |
| Flexural strength                            | 185 / 100         | MPa               | ISO 178         |
| Tensile modulus (200°C)                      | 1450              | MPa               | ISO 527-1/-2    |
| Charpy impact strength (+23°C)               | 45 / 75           | kJ/m <sup>2</sup> | ISO 179/1eU     |
| Charpy impact strength (-30°C)               | 40 / 45           | kJ/m <sup>2</sup> | ISO 179/1eU     |
| Charpy notched impact strength (+23°C)       | <10 / 10          | kJ/m <sup>2</sup> | ISO 179/1eA     |
| Charpy notched impact strength (-30°C)       | <10 / <10         | kJ/m <sup>2</sup> | ISO 179/1eA     |
| Izod notched impact strength (-40°C)         | <10 / <10         | kJ/m <sup>2</sup> | ISO 180/1A      |
| <b>THERMAL PROPERTIES</b>                    |                   |                   |                 |
|  | <b>DRY / COND</b> |                   |                 |
| Melting temperature (10°C/min)               | 222 / *           | °C                | ISO 11357-1/-3  |
| Temp. of deflection under load (1.80 MPa)    | 190 / *           | °C                | ISO 75-1/-2     |
| Temp. of deflection under load (0.45 MPa)    | 210 / *           | °C                | ISO 75-1/-2     |
| Coeff. of linear therm. expansion (parallel) | 0.3 / *           | E-4/°C            | ISO 11359-1/-2  |
| Coeff. of linear therm. expansion (normal)   | 0.9 / *           | E-4/°C            | ISO 11359-1/-2  |
| Burning Behav. at 1.5 mm nom. thickn.        | HB / *            | class             | IEC 60695-11-10 |

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## Property Data

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| <i>PROPERTIES</i>                          | <i>TYPICAL DATA</i> | <i>UNIT</i>              | <i>TEST METHOD</i>   |
|--|---------------------|--------------------------|----------------------|
| Thickness tested                           | 1.5 / *             | mm                       | IEC 60695-11-10      |
| Glow Wire Flammability Index GWFI          | 650 / -             | °C                       | IEC 60695-2-12       |
| GWFI (Thickness (1) tested)                | 2 / -               | mm                       | IEC 60695-2-12       |
| <b><i>ELECTRICAL PROPERTIES</i></b>        |                     | <b><i>DRY / COND</i></b> |                      |
| Relative permittivity (100Hz)              | 4.5 / -             | -                        | IEC 62631-2-1        |
| Relative permittivity (1 MHz)              | 4 / -               | -                        | IEC 62631-2-1        |
| Dissipation factor (100 Hz)                | 265 / -             | E-4                      | IEC 62631-2-1        |
| Dissipation factor (1 MHz)                 | 220 / -             | E-4                      | IEC 62631-2-1        |
| Volume resistivity                         | 1E13 / -            | Ohm*m                    | IEC 62631-3-1        |
| Comparative tracking index                 | 375 / -             | V                        | IEC 60112            |
| <b><i>OTHER PROPERTIES</i></b>             |                     | <b><i>DRY / COND</i></b> |                      |
| Water absorption                           | 7 / *               | %                        | Sim. to ISO 62       |
| Humidity absorption                        | 2.2 / *             | %                        | Sim. to ISO 62       |
| Density                                    | 1350 / -            | kg/m³                    | ISO 1183             |
| <b><i>MATERIAL SPECIFIC PROPERTIES</i></b> |                     | <b><i>DRY / COND</i></b> |                      |
| Viscosity number                           | 140 / *             | cm³/g                    | ISO 307, 1157, 1628  |
| <b><i>PROCESSING RECOMMENDATIONS</i></b>   |                     | <b><i>VALUE</i></b>      |                      |
| Drying temperature dry air dryer           | 80                  | °C                       |                      |
| Drying time dry air dryer                  | 2-6                 | h                        |                      |
| Residual moisture content                  | 0.03-0.12           | %                        | acc. to Karl Fischer |
| Melt temperature (Tmin – Tmax)             | 270-290             | °C                       |                      |
| Mold temperature                           | 80-120              | °C                       |                      |

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