

**Durethan® BG30XH3.0LT 904040**  
**PA6-(GF+GB)30**

Envalior

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

ISO 1043 PA6-(GF+GB)30

| Rheological properties      | dry / cond | Unit | Test Standard   |
|-----------------------------|------------|------|-----------------|
| <b>ISO Data</b>             |            |      |                 |
| Molding shrinkage, parallel | 0.5 / *    | %    | ISO 294-4, 2577 |
| Molding shrinkage, normal   | 0.8 / *    | %    | ISO 294-4, 2577 |

| Mechanical Properties                   | dry / cond  | Unit  | Test Standard |
|-----------------------------------------|-------------|-------|---------------|
| <b>ISO Data</b>                         |             |       |               |
| Tensile Modulus                         | 6400 / 3100 | MPa   | ISO 527       |
| Stress at Break                         | 120 / 65    | MPa   | ISO 527       |
| Strain at Break                         | 4 / 10      | %     | ISO 527       |
| Tensile Creep Modulus, 1h               | * / 2400    | MPa   | ISO 899-1     |
| Tensile Creep Modulus, 1000h            | * / 2000    | MPa   | ISO 899-1     |
| Impact Strength (Charpy), +23°C         | 45 / 75     | kJ/m² | ISO 179/1eU   |
| Impact Strength (Charpy), -30°C         | 40 / 45     | kJ/m² | ISO 179/1eU   |
| Notched Impact Strength (Charpy), +23°C | - / 10      | kJ/m² | ISO 179/1eA   |
| Notched Impact Strength (Charpy), -30°C | - / 10      | kJ/m² | ISO 179/1eA   |
| Puncture - maximum force, +23°C         | 700 / -     | N     | ISO 6603-2    |
| Puncture - maximum force, -30°C         | 690 / -     | N     | ISO 6603-2    |
| Puncture energy, +23°C                  | 2 / -       | J     | ISO 6603-2    |
| Puncture energy, -30°C                  | 1.7 / -     | J     | ISO 6603-2    |

| Thermal Properties                          | dry / cond | Unit  | Test Standard  |
|---------------------------------------------|------------|-------|----------------|
| <b>ISO Data</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 | 30 / *     | E-6/K | ISO 11359-1/-2 |
| Coeff. of Linear Therm. Expansion, normal   | 90 / *     | E-6/K | ISO 11359-1/-2 |
| Burning Behav. at 1.5 mm Nom. Thickn.       | HB / *     | class | UL 94          |
| Thickness tested                            | 1.5 / *    | mm    | -              |

| Electrical Properties        | dry / cond | Unit  | Test Standard |
|------------------------------|------------|-------|---------------|
| <b>ISO Data</b>              |            |       |               |
| Relative permittivity, 100Hz | 4.5 / -    | -     | IEC 62631-2-1 |
| Relative permittivity, 1MHz  | 4 / -      | -     | IEC 62631-2-1 |
| Dissipation Factor, 100Hz    | 265 / -    | E-4   | IEC 62631-2-1 |
| Dissipation Factor, 1MHz     | 220 / -    | E-4   | IEC 62631-2-1 |
| Volume Resistivity           | 1E13 / -   | Ohm*m | IEC 62631-3-1 |
| Comparative tracking index   | 375 / -    | -     | IEC 60112     |

| Other Properties    | dry / cond | Unit  | Test Standard  |
|---------------------|------------|-------|----------------|
| <b>ISO Data</b>     |            |       |                |
| Water Absorption    | 7 / *      | %     | Sim. to ISO 62 |
| Humidity absorption | 2.2 / *    | %     | Sim. to ISO 62 |
| Density             | 1350 / -   | kg/m³ | ISO 1183       |

| Material Specific Properties | dry / cond | Unit  | Test Standard       |
|------------------------------|------------|-------|---------------------|
| <b>ISO Data</b>              |            |       |                     |
| Viscosity number             | 140 / *    | cm³/g | ISO 307, 1157, 1628 |

| Test specimen production            | Value | Unit | Test Standard |
|-------------------------------------|-------|------|---------------|
| <b>ISO Data</b>                     |       |      |               |
| Injection Molding, melt temperature | 280   | °C   | ISO 294       |
| Injection Molding, mold temperature | 80    | °C   | ISO 294       |

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| Processing Recommendation Injection Molding | Value     | Unit | Test Standard |
|---------------------------------------------|-----------|------|---------------|
| Pre-drying - Temperature                    | 80        | °C   | -             |
| Pre-drying - Time                           | 2 - 6     | h    | -             |
| Processing humidity                         | ≤0.12     | %    | -             |
| Melt temperature                            | 270 - 290 | °C   | -             |
| Mold temperature                            | 80 - 120  | °C   | -             |

### Characteristics

#### Processing

Injection Molding

#### Special Characteristics

Heat aging stabilized

#### Delivery form

Pellets

#### Features

Low Warpage

#### Additives

Release agent

### Injection Molding

#### PREPROCESSING

Residual moisture content: 0.03 - 0.12%

Drying temperature dry air dryer: 80 °C

Drying time dry air dryer 2 - 6 h

#### PROCESSING

Melt temperature (Tmin - Tmax): 270 - 290 °C

Mold temperature: 80 - 120 °C