

**TECHNICAL DATA SHEET**

# Engineering plastic type DG/DL

**General notes:**

- » **POM/GF30** acetal resin reinforced with 30 wt% glass fibre
- » good tensile and flexural strength, fatigue and creep resistance
- » low friction, good wear and abrasion resistance
- » low moisture absorption
- » good chemical resistance (oils, grease, fuels, organic solvents); not resistant to strong acids, alkalis and oxidizing agents; good hydrolytic resistance (hot water)
- » insulating
- » typical applications include handling of very scratch sensitive components (ceramic and glass devices, wafers, capillary)

## Mechanical properties

|  |                            |                   |
|--|----------------------------|-------------------|
| Flexural modulus +23°C                   | <b>8000 MPa</b>            | <i>ASTM D 790</i> |
| Flexural modulus +60°C                   | <b>5700 MPa</b>            | <i>ASTM D 790</i> |
| Flexural modulus +90°C                   | <b>4500 MPa</b>            | <i>ASTM D 790</i> |
| Flexural modulus +120°C                  | <b>3800 MPa</b>            | <i>ASTM D 790</i> |
| Tensile strength +23°C                   | <b>83 MPa</b>              | <i>ISO 527</i>    |
| Tensile strength +60°C                   | <b>60 MPa</b>              | <i>ISO 527</i>    |
| Tensile strength +90°C                   | <b>53 MPa</b>              | <i>ISO 527</i>    |
| Tensile strength +120°C                  | <b>45MPa</b>               | <i>ISO 527</i>    |
| Rockwell hardness M                      | <b>85</b>                  | <i>ASTM D 785</i> |
| Izod-Impact strength (notched) +23°C     | <b>55 J/m</b>              | <i>ASTM D 256</i> |
| Charpy-Impact strength (unnotched) +23°C | <b>20 kJ/m<sup>2</sup></b> | <i>DIN 53453</i>  |

## Thermal properties

|  |                    |                   |
|--|--------------------|-------------------|
| Temp. of defl. under load (1.80 MPa)     | <b>162 °C</b>      | <i>ASTM D648</i>  |
| Temp. of defl. under load (0.45 MPa)     | <b>165 °C</b>      | <i>ASTM D648</i>  |
| Vicat softening temperature (50°C/h 50N) | <b>156 °C</b>      | <i>ISO 306</i>    |
| Coef. of lin. therm expansion, normal    | <b>4.50 E-5/°C</b> | <i>ASTM D 696</i> |
| Continuous Use Temperature               | <b>85°C</b>        | <i>20'000 h</i>   |
| Short Time Temperature                   | <b>120°C</b>       |                   |

## Electrical properties

|                            |                      |                  |
|----------------------------|----------------------|------------------|
| Comparative tracking index | <b>&gt;600 Volts</b> | <i>IEC 112</i>   |
| Electric strength (2mm)    | <b>23.0 kV/mm</b>    | <i>IEC 243-1</i> |

This document contains information based on average values as obtained from the results of laboratory tests and observations made on the material. Ideal-tek SA declines all responsibility from an improper use of the product described in this document.

## Other properties

|                                      |                                    |                 |
|--------------------------------------|------------------------------------|-----------------|
| Density                              | <b>1.59 g/ccm</b>                  | <i>ISO 1183</i> |
| Color                                | <b>DG white</b><br><b>DL black</b> |                 |
| Water absorption in water 23°C (24h) | <b>0.20%</b>                       | <i>ISO 62</i>   |

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