# Durethan DPAKV50HRH2.0 901510

**PA 66, 50 % glass fibers, injection molding, heat-aging stabilized, hydrolysis stabilized**

**ISO Shortname:** ISO 16396-PA 66,GF50,GHRW,S14-160

| Property | Test Condition | Unit | Standard | guide value d.a.m. | guide value cond. |
|---|---|---|---|---|---|
| **Rheological properties** | | | | | |
| C Molding shrinkage, parallel | 60x60x2; 300 °C / MT 80 °C; 600 bar | % | ISO 294-4 | 0.35 | |
| C Molding shrinkage, transverse | 60x60x2; 300 °C / MT 80 °C; 600 bar | % | ISO 294-4 | 0.9 | |
| Post- shrinkage, parallel | 60x60x2; 120 °C; 4 h | % | ISO 294-4 | 0.05 | |
| Post- shrinkage, transverse | 60x60x2; 120 °C; 4 h | % | ISO 294-4 | 0.1 | |
| **Mechanical properties (23 °C/50 % r. h.)** | | | | | |
| C Tensile modulus | 1 mm/min | MPa | ISO 527-1,-2 | 15800 | 10500 |
| C Tensile Stress at break | 5 mm/min | MPa | ISO 527-1,-2 | 225 | 160 |
| C Tensile Strain at break | 5 mm/min | % | ISO 527-1,-2 | 2.7 | 4.5 |
| C Charpy impact strength | 23 °C | kJ/m² | ISO 179-1eU | 100 | 95 |
| C Charpy impact strength | -30 °C | kJ/m² | ISO 179-1eU | 100 | 100 |
| C Charpy notched impact strength | 23 °C | kJ/m² | ISO 179-1eA | 15 | 20 |
| C Charpy notched impact strength | -30 °C | kJ/m² | ISO 179-1eA | 12 | 13 |
| Izod impact strength | 23 °C | kJ/m² | ISO 180-1U | 90 | 85 |
| Izod impact strength | -30 °C | kJ/m² | ISO 180-1U | 90 | 85 |
| Izod notched impact strength | 23 °C | kJ/m² | ISO 180-1A | 15 | 20 |
| Izod notched impact strength | -30 °C | kJ/m² | ISO 180-1A | 13 | 14 |
| Flexural modulus | 2 mm/min | MPa | ISO 178-A | 15500 | 11000 |
| Flexural strength | 2 mm/min | MPa | ISO 178-A | 355 | 260 |
| Flexural strain at flexural strength | 2 mm/min | % | ISO 178-A | 3.2 | 4.5 |
| Flexural stress at 3.5 % strain | 2 mm/min | MPa | ISO 178-A | 360 | 235 |
| C Puncture maximum force | 23 °C | N | ISO 6603-2 | 1100 | |
| C Puncture maximum force | -30 °C | N | ISO 6603-2 | 1000 | |
| C Puncture energy | 23 °C | J | ISO 6603-2 | 4 | |
| C Puncture energy | -30 °C | J | ISO 6603-2 | 3 | |
| **Thermal properties** | | | | | |
| C Melting temperature | 10 °C/min | °C | ISO 11357-1,-3 | 261 | |
| C Temperature of deflection under load | 1.80 MPa | °C | ISO 75-1,-2 | 245 | |
| C Temperature of deflection under load | 0.45 MPa | °C | ISO 75-1,-2 | 250 | |
| C Coefficient of linear thermal expansion, parallel | 23 to 55 °C | $10^{-4}$/K | ISO 11359-1,-2 | 0.2 | |
| C Coefficient of linear thermal expansion, transverse | 23 to 55 °C | $10^{-4}$/K | ISO 11359-1,-2 | 0.7 | |
| **Other properties (23 °C)** | | | | | |
| C Water absorption (Saturation value) | Water at 23 °C | % | ISO 62 | 4.6 | |
| C Water absorption (Equilibrium value) | 23 °C; 50 % RH | % | ISO 62 | 1.5 | |
| C Density | | kg/m³ | ISO 1183 | 1570 | |
| Bulk density | | kg/m³ | ISO 60 | 700 | |
| **Processing conditions for test specimens** | | | | | |
| C Injection molding-Melt temperature | | °C | ISO 294 | 300 | |

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| Property | Test Condition | Unit | Standard | guide value d.a.m. | cond. |
|---|---|---|---|---|---|
| C Injection molding-Mold temperature | | °C | ISO 294 | 80 | |
| **Processing recommendations** | | | | | |
| Drying temperature dry air dryer | | °C | - | 80 | |
| Drying time dry air dryer | | h | - | 2-6 | |
| Residual moisture content | | % | Acc. to Karl Fischer | 0.03-0.12 | |
| Melt temperature (Tmin - Tmax) | | °C | - | 280-300 | |
| Mold temperature | | °C | - | 80-120 | |

**C** These property characteristics are taken from the CAMPUS plastics data bank and are based on the international catalogue of basic data for plastics according to ISO 10350.

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**Disclaimer**

Disclaimer for commercial products

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Test values

Unless specified to the contrary, the values given have been established on standardized test specimens at room temperature. The figures should be regarded as guide values only and not as binding minimum values. Kindly note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mould/die, the processing conditions and the coloring.

Processing note

Under the recommended processing conditions small quantities of decomposition product may be given off during processing. To preclude any risk to the health and well-being of the machine operatives, tolerance limits for the work environment must be ensured by the provision of efficient exhaust ventilation and fresh air at the workplace in accordance with the Safety Data Sheet. In order to prevent the partial decomposition of the polymer and the generation of volatile decomposition products, the prescribed processing temperatures should not be substantially exceeded. Since excessively high temperatures are generally the result of operator error or defects in the heating system, special care and controls are essential in these areas.

Conditioning

Conditioning in accordance with ISO 1110 (70 °C; 62 % r.h.)

**LANXESS** DEUTSCHLAND GMBH | D - 50569 COLOGNE