Datasheet

# Durethan BKV20GW1 901317

**PA 6, 20% glass fibers, injection molding, weather stabilized, improved surface finish**

**ISO Shortname:** ISO 16396-PA 6,GF20,GHLR,S14-080

| Property | | Test Condition | Unit | Standard | guide value [1] d.a.m. | cond. |
|---|---|---|---|---|---|---|
| **Rheological properties** | | | | | | |
| | Molding shrinkage, parallel | 150x105x3; 280 °C / MT 80 °C; 500 bar | % | acc. ISO 294-4 | 0.22 | |
| | Molding shrinkage, transverse | 150x105x3; 280 °C / MT 80 °C; 500 bar | % | acc. ISO 294-4 | 0.67 | |
| | Post- shrinkage, parallel | 150x105x3; 120 °C; 4 h | % | acc. ISO 294-4 | 0.07 | |
| | Post- shrinkage, transverse | 150x105x3; 120 °C; 4 h | % | acc. ISO 294-4 | 0.20 | |
| **Mechanical properties (23 °C/50 % r. h.)** | | | | | | |
| C | Tensile modulus | 1 mm/min | MPa | ISO 527-1,-2 | 7600 | 4700 |
| C | Tensile Stress at break | 5 mm/min | MPa | ISO 527-1,-2 | 150 | 100 |
| C | Tensile Strain at break | 5 mm/min | % | ISO 527-1,-2 | 3.0 | 7.0 |
| C | Charpy impact strength | 23 °C | kJ/m² | ISO 179-1eU | 45 | 60 |
| C | Charpy impact strength | -30 °C | kJ/m² | ISO 179-1eU | 40 | 40 |
| C | Charpy notched impact strength | 23 °C | kJ/m² | ISO 179-1eA | <10 | |
| C | Charpy notched impact strength | -30 °C | kJ/m² | ISO 179-1eA | <10 | |
| | Izod impact strength | 23 °C | kJ/m² | ISO 180-1U | 30 | 40 |
| | Izod impact strength | -30 °C | kJ/m² | ISO 180-1U | 30 | 30 |
| | Izod notched impact strength | 23 °C | kJ/m² | ISO 180-1A | < 10 | < 10 |
| | Izod notched impact strength | -30 °C | kJ/m² | ISO 180-1A | <10 | <10 |
| | Flexural modulus | 2 mm/min | MPa | ISO 178-A | 6400 | 4100 |
| | Flexural strength | 2 mm/min | MPa | ISO 178-A | 212 | 130 |
| | Flexural strain at flexural strength | 2 mm/min | % | ISO 178-A | 4.1 | 6.4 |
| | Flexural stress at 3.5 % strain | 2 mm/min | MPa | ISO 178-A | 197 | 110 |
| C | Puncture energy | 23 °C | J | ISO 6603-2 | 5 | 10 |
| C | Puncture energy | -30 °C | J | ISO 6603-2 | 4 | |
| | Ball indentation hardness | | N/mm² | ISO 2039-1 | 198 | |
| **Thermal properties** | | | | | | |
| C | Melting temperature | 10 °C/min | °C | ISO 11357-1,-3 | 222 | |
| C | Temperature of deflection under load | 1.80 MPa | °C | ISO 75-1,-2 | 193 | |
| C | Temperature of deflection under load | 0.45 MPa | °C | ISO 75-1,-2 | 213 | |
| C | Temperature of deflection under load | 8.00 MPa | °C | ISO 75-1,-2 | 73 | |
| | Vicat softening temperature | 50 N; 120 °C/h | °C | ISO 306 | > 200 | |
| C | Coefficient of linear thermal expansion, parallel | 23 to 55 °C | $10^{-4}$/K | ISO 11359-1,-2 | 0.23 | |
| C | Coefficient of linear thermal expansion, transverse | 23 to 55 °C | $10^{-4}$/K | ISO 11359-1,-2 | 0.89 | |
| C | Burning behavior UL 94 | 1.5 mm | Class | UL 94 | HB | |
| C | Burning behavior UL 94 | 0.75 mm | Class | UL 94 | HB | |



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| | Property | Test Condition | Unit | Standard | guide value [1] d.a.m. | cond. |
|---|---|---|---|---|---|---|
| | Burning behavior US-FMVSS302 | >=1.0 mm | | ISO 3795 | passed | |
| | **Electrical properties (23 °C/50 % r. h.)** | | | | | |
| C | Relative permittivity | 100 Hz | - | IEC 60250 | 4.1 | 9.34 |
| C | Relative permittivity | 1 MHz | - | IEC 60250 | 3.74 | 4.27 |
| C | Dissipation factor | 100 Hz | $10^{-4}$ | IEC 60250 | 80 | 2200 |
| C | Dissipation factor | 1 MHz | $10^{-4}$ | IEC 60250 | 180 | 650 |
| C | Volume resistivity | | Ohm·m | IEC 62631-3 | 3E13 | 1E10 |
| C | Surface resistivity | | Ohm | IEC 62631-3 | 2E15 | 2E13 |
| | **Other properties (23 °C)** | | | | | |
| C | Density | | kg/m³ | ISO 1183 | 1280 | |
| | Bulk density | | kg/m³ | ISO 60 | 700 | |
| | **Processing conditions for test specimens** | | | | | |
| C | Injection molding-Melt temperature | | °C | ISO 294 | 280 | |
| 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 | - | 270-290 | |
| | Mold temperature | | °C | - | 80-120 | |

Notes

**1** Typical properties: these are not to be construed as specifications

**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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Property data is provided as general information only. Property values are approximate and are not part of the product specifications.

Flammability

Flammability results are based on small-scale laboratory tests for purposes of relative comparison and are not intended to reflect the hazards presented by this or any other material under actual fire conditions.

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Type and quantity of pigments or additives used to obtain certain colors and special visual effects can affect mechanical properties.