

## Data sheet

### Durethan BKV20FN20 000000

PA 6, 20 % glass fibers, injection molding, halogen free flame retardant, heat-aging stabilized

**ISO Shortname:** ISO 16396-PA 6,GF20 FR(30),GF2HR,S12-060

| Property                                              | Test Condition                      | Unit    | Standard       | guide value |       |
|-------------------------------------------------------|-------------------------------------|---------|----------------|-------------|-------|
|                                                       |                                     |         |                | d.a.m.      | cond. |
| Rheological properties                                |                                     |         |                |             |       |
| C Molding shrinkage, parallel                         | 60x60x2; 260 °C / MT 80 °C; 600 bar | %       | ISO 294-4      | 0.6         |       |
| C Molding shrinkage, transverse                       | 60x60x2; 260 °C / MT 80 °C; 600 bar | %       | ISO 294-4      | 0.7         |       |
| Post- shrinkage, parallel                             | 60x60x2; 120 °C; 4 h                | %       | ISO 294-4      | 0.1         |       |
| 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   | 6100        | 3100  |
| C Tensile Stress at break                             | 5 mm/min                            | MPa     | ISO 527-1,-2   | 100         | 55    |
| C Tensile Strain at break                             | 5 mm/min                            | %       | ISO 527-1,-2   | 3           | 15    |
| C Charpy impact strength                              | 23 °C                               | kJ/m²   | ISO 179-1eU    | 35          | 100   |
| C Charpy impact strength                              | -30 °C                              | kJ/m²   | ISO 179-1eU    | 30          |       |
| C Charpy notched impact strength                      | 23 °C                               | kJ/m²   | ISO 179-1eA    | <10         | <10   |
| C Charpy notched impact strength                      | -30 °C                              | kJ/m²   | ISO 179-1eA    | <10         | <10   |
| Izod impact strength                                  | 23 °C                               | kJ/m²   | ISO 180-1U     | 30          | 85    |
| Izod notched impact strength                          | 23 °C                               | kJ/m²   | ISO 180-1A     | <10         | 11    |
| Izod notched impact strength                          | -30 °C                              | kJ/m²   | ISO 180-1A     | <10         | <10   |
| Flexural modulus                                      | 2 mm/min                            | MPa     | ISO 178-A      | 6100        | 3200  |
| Flexural strength                                     | 2 mm/min                            | MPa     | ISO 178-A      | 170         | 90    |
| Flexural strain at flexural strength                  | 2 mm/min                            | %       | ISO 178-A      | 4.5         | 7     |
| Flexural stress at 3.5 % strain                       | 2 mm/min                            | MPa     | ISO 178-A      | 165         | 75    |
| 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    | 185         |       |
| C Temperature of deflection under load                | 0.45 MPa                            | °C      | ISO 75-1,-2    | 215         |       |
| Vicat softening temperature                           | 50 N; 120 °C/h                      | °C      | ISO 306        | 205         |       |
| C Coefficient of linear thermal expansion, parallel   | 23 to 55 °C                         | 10-4/K  | ISO 11359-1,-2 | 0.4         |       |
| C Coefficient of linear thermal expansion, transverse | 23 to 55 °C                         | 10-4/K  | ISO 11359-1,-2 | 0.9         |       |
| C Burning behavior UL 94                              | 1.5 mm                              | Class   | UL 94          | V-2         |       |
| C Burning behavior UL 94                              | 0.75 mm                             | Class   | UL 94          | V-2         |       |
| C Oxygen index                                        | Method A                            | %       | ISO 4589-2     | 26.9        |       |
| Resistance to heat (ball pressure test)               |                                     | °C      | IEC 60695-10-2 | 212         |       |
| Glow wire test (GWFI)                                 | 0.75 mm                             | °C      | IEC 60695-2-12 | 960         |       |
| Glow wire test (GWFI)                                 | 1.5 mm                              | °C      | IEC 60695-2-12 | 960         |       |
| Glow wire test (GWFI)                                 | 3.0 mm                              | °C      | IEC 60695-2-12 | 960         |       |
| Glow wire test (GWIT)                                 | 0.75 mm                             | °C      | IEC 60695-2-13 | 775         |       |
| Glow wire test (GWIT)                                 | 1.5 mm                              | °C      | IEC 60695-2-13 | 775         |       |
| Glow wire test (GWIT)                                 | 3.0 mm                              | °C      | IEC 60695-2-13 | 775         |       |
| Electrical properties (23 °C/50 % r. h.)              |                                     |         |                |             |       |
| C Volume resistivity                                  |                                     | Ohm · m | IEC 60093      | 6.00E+13    |       |
| Surface resistivity                                   |                                     | Ohm     | IEC 60167      | 5.00E+14    |       |
| C Electric strength                                   | 1 mm                                | kV/mm   | IEC 60243-1    | 32          |       |
| C Comparative tracking index CTI                      | Solution A                          | Rating  | IEC 60112      | 525         |       |
| Comparative tracking index CTI                        | Solution A                          | PLC     | UL 746A        | 1           |       |
| Other properties (23 °C)                              |                                     |         |                |             |       |
| C Water absorption (Saturation value)                 | Water at 23 °C                      | %       | ISO 62         | 7           |       |
| C Water absorption (Equilibrium value)                | 23 °C; 50 % RH                      | %       | ISO 62         | 2.1         |       |
| C Density                                             |                                     | kg/m³   | ISO 1183       | 1310        |       |
| Processing conditions for test specimens              |                                     |         |                |             |       |
| C Injection molding-Melt temperature                  |                                     | °C      | ISO 294        | 260         |       |
| 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 | 0.03-0.07 |
| Melt temperature (Tmin - Tmax)   | °C | -                    | 250-270   |
| Mold temperature                 | °C | -                    | 80-100    |

**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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### Typical Properties

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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### Color and Visual Effects

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

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