

Datasheet

Durethan ECOBKV20FN20 000000

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

ISO Shortname: ISO 16396-PA 6,G20 FR(30) (R),GF2HR,S12-050

| Property | Test Condition | Unit | Standard | guide value ¹ | |
|-------------------------------------------------------|-------------------------------------|---------------------|----------------|--------------------------|-------|
| | | | | d.a.m. | cond. |
| Rheological properties | | | | | |
| C Molding shrinkage, parallel | 60x60x2; 260 °C / MT 80 °C; 600 bar | % | ISO 294-4 | 0.8 | |
| C Molding shrinkage, transverse | 60x60x2; 260 °C / MT 80 °C; 600 bar | % | ISO 294-4 | 0.8 | |
| Post- shrinkage, parallel | 60x60x2; 120 °C; 4 h | % | ISO 294-4 | 0.2 | |
| Post- shrinkage, transverse | 60x60x2; 120 °C; 4 h | % | ISO 294-4 | 0.2 | |
| Mechanical properties (23 °C/50 % r. h.) | | | | | |
| C Tensile modulus | 1 mm/min | MPa | ISO 527-1,-2 | 5400 | 2300 |
| C Tensile Stress at break | 5 mm/min | MPa | ISO 527-1,-2 | 76 | 40 |
| C Tensile Strain at break | 5 mm/min | % | ISO 527-1,-2 | 3.0 | 27 |
| C Charpy impact strength | 23 °C | kJ/m ² | ISO 179-1eU | 35 | 75 |
| C Charpy notched impact strength | 23 °C | kJ/m ² | ISO 179-1eA | <10 | <10 |
| C Charpy notched impact strength | -30 °C | kJ/m ² | ISO 179-1eA | <10 | <10 |
| Izod impact strength | 23 °C | kJ/m ² | ISO 180-1U | 30 | 65 |
| Izod notched impact strength | 23 °C | kJ/m ² | ISO 180-1A | <10 | <10 |
| Izod notched impact strength | -30 °C | kJ/m ² | ISO 180-1A | <10 | <10 |
| Flexural modulus | 2 mm/min | MPa | ISO 178-A | 5300 | 2300 |
| Flexural strength | 2 mm/min | MPa | ISO 178-A | 140 | 62 |
| Flexural strain at flexural strength | 2 mm/min | % | ISO 178-A | 3.8 | 7.0 |
| Flexural stress at 3.5 % strain | 2 mm/min | MPa | ISO 178-A | 135 | 50 |
| 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 | 155 | |
| C Temperature of deflection under load | 0.45 MPa | °C | ISO 75-1,-2 | 210 | |
| 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 | 0.5 | |
| C Coefficient of linear thermal expansion, transverse | 23 to 55 °C | 10 ⁻⁴ /K | ISO 11359-1,-2 | 0.8 | |
| 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 | 30 | |
| Resistance to heat (ball pressure test) | | °C | IEC 60695-10-2 | 209 | |
| 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 | |

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| Property | Test Condition | Unit | Standard | guide value ¹ <small>d.a.m. cond.</small> |
|-------------------------------------------------|----------------|-------------------|----------------------|---------------------------------------------------------|
| 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 Electric strength | 1 mm | kV/mm | IEC 60243-1 | 31.9 |
| 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 Density | | kg/m ³ | ISO 1183 | 1310 |
| Bulk density | | kg/m ³ | ISO 60 | 700 |
| 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 |
| admissible residence time at Tmax | | min | - | <5 |
| Mold temperature | | °C | - | 80-100 |

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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