Celanese
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# CELANYL® XS3 GF50 BK 9005/C

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*Compound designed for parts with high mechanical requirements, typically used to replace metal due to the high stiffness and strength, stable after conditioning. It shows better creep behavior and dimensional stability vs. an equivalent PA66 grade, with lower warpage and excellent surface finish.*

## Product information

| | | |
|---|---|---|
| Resin Identification | (PA66+PA6I/6T)-GF50 | ISO 1043 |
| Part Marking Code | >(PA66+PA6I/6T)-GF50< | ISO 11469 |
| Continuous Service Temperature | 120 °C | IEC 60216-1 |

## Rheological properties

| | dry/cond. | | |
|---|---|---|---|
| Moulding shrinkage, parallel | 0.1 / - | % | ISO 294-4, 2577 |
| Moulding shrinkage, normal | 0.4 / - | % | ISO 294-4, 2577 |

## Typical mechanical properties

| | dry/cond. | | |
|---|---|---|---|
| Tensile modulus | 17500 / 16500 | MPa | ISO 527-1/-2 |
| Tensile stress at break, 5mm/min | 240 / 210 | MPa | ISO 527-1/-2 |
| Tensile strain at break, 5mm/min | 2.8 / 3 | % | ISO 527-1/-2 |
| Flexural modulus | 16000 / 14000 | MPa | ISO 178 |
| Flexural strength | 380 / 300 | MPa | ISO 178 |
| Charpy impact strength, 23 °C | 100 / 95 | kJ/m² | ISO 179/1eU |
| Charpy impact strength, -30 °C | 95 / - | kJ/m² | ISO 179/1eU |
| Charpy notched impact strength, 23 °C | 13 / 14 | kJ/m² | ISO 179/1eA |
| Charpy notched impact strength, -30 °C | 11 / - | kJ/m² | ISO 179/1eA |
| Izod notched impact strength, 23 °C | 13 / 15 | kJ/m² | ISO 180/1A |
| Poisson's ratio | 0.33 / 0.33[C] | | |

[C]: Calculated

## Thermal properties

| | dry/cond. | | |
|---|---|---|---|
| Melting temperature, 10 °C/min | 260 / * | °C | ISO 11357-1/-3 |
| Temperature of deflection under load, 1.8 MPa | 235 / * | °C | ISO 75-1/-2 |

## Flammability

| | dry/cond. | | |
|---|---|---|---|
| Burning Behav. at 1.5mm nom. thickn. | HB / * | class | IEC 60695-11-10 |
| Thickness tested | 1.6 / * | mm | IEC 60695-11-10 |
| Burning Behav. at thickness h | HB / * | class | IEC 60695-11-10 |
| Thickness tested | 0.4 / * | mm | IEC 60695-11-10 |
| UL recognition | yes / * | | UL 94 |

## Electrical properties

| | dry/cond. | | |
|---|---|---|---|
| Volume resistivity | 1E12 / - | Ohm.m | IEC 62631-3-1 |
| Surface resistivity | * / 1E13 | Ohm | IEC 62631-3-2 |
| Electric strength | 32 / - | kV/mm | IEC 60243-1 |
| Comparative tracking index | 600 / - | | IEC 60112 |

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## Physical/Other properties

| | dry/cond. | | |
|---|---|---|---|
| Humidity absorption, 2mm | 1 / * | % | Sim. to ISO 62 |
| Water absorption, 2mm | 4.2 / * | % | Sim. to ISO 62 |
| Density | 1580 / - | kg/m³ | ISO 1183 |

## Injection

| | | |
|---|---|---|
| Drying Recommended | yes | |
| Drying Temperature | 80 | °C |
| Drying Time, Dehumidified Dryer | 4 - 6 | h |
| Processing Moisture Content | ≤0.1 | % |
| Melt Temperature Optimum | 290 | °C |
| Min. melt temperature | 270 | °C |
| Max. melt temperature | 305 | °C |
| Screw tangential speed | ≤0.2 | m/s |
| Mold Temperature Optimum | 80 | °C |
| Min. mould temperature | 60 | °C |
| Max. mould temperature | 100 | °C |

## Characteristics

| | |
|---|---|
| Processing | Injection Moulding |
| Special characteristics | Heat stabilised or stable to heat, High Gloss, Low Warpage, Improved creep |