

FRIANYL® B3 GF30 V0 OR 2003/P

FRIANYL®

Designed for Electrical applications requiring self-extinguishing properties combined with good mechanical performances, this grade meets the most stringent safety requirements for insulating materials.

Product information

| | | |
|--------------------------------|--------------------|-------------|
| Resin Identification | PA6-GF30FR(40) | ISO 1043 |
| Part Marking Code | >PA6-GF30FR(40)< | ISO 11469 |
| Continuous Service Temperature | 120 °C | IEC 60216-1 |

Rheological properties

| | | | |
|------------------------------------|-----------|--------------------|-----------------|
| | dry/cond. | | |
| Viscosity number | 140/* | cm ³ /g | ISO 307, 1628 |
| Moulding shrinkage range, parallel | 0.2 - 0.6 | % | ISO 294-4, 2577 |
| Moulding shrinkage range, normal | 0.6 - 1 | % | ISO 294-4, 2577 |

Typical mechanical properties

| | | | |
|--------------------------------------|-----------------------|-------------------|--------------|
| | dry/cond. | | |
| Tensile modulus | 10000/- | MPa | ISO 527-1/-2 |
| Tensile stress at break, 5mm/min | 110/- | MPa | ISO 527-1/-2 |
| Tensile strain at break, 5mm/min | 2/- | % | ISO 527-1/-2 |
| Charpy impact strength, 23°C | 37/- | kJ/m ² | ISO 179/1eU |
| Charpy notched impact strength, 23°C | 6/- | kJ/m ² | ISO 179/1eA |
| Poisson's ratio | 0.34/- ^[C] | | |

[C]: Calculated

Thermal properties

| | | | |
|--|-----------|----|----------------|
| | dry/cond. | | |
| Melting temperature, 10°C/min | 225/* | °C | ISO 11357-1/-3 |
| Temperature of deflection under load, 1.8 MPa | 210/* | °C | ISO 75-1/-2 |
| Temperature of deflection under load, 0.45 MPa | 220/* | °C | ISO 75-1/-2 |

Flammability

| | | | |
|--|-----------|-------|-----------------|
| | dry/cond. | | |
| Burning Behav. at thickness h | V-0/* | class | IEC 60695-11-10 |
| Thickness tested | 0.8/* | mm | IEC 60695-11-10 |
| UL recognition | yes/* | | UL 94 |
| Glow Wire Flammability Index, 0.75mm | 960/- | °C | IEC 60695-2-12 |
| Glow Wire Flammability Index, 3.0mm | 960/- | °C | IEC 60695-2-12 |
| Glow Wire Ignition Temperature, 0.75mm | 775/- | °C | IEC 60695-2-13 |
| Glow Wire Ignition Temperature, 3.0mm | 800/- | °C | IEC 60695-2-13 |
| Railway classification | R22/R24 | | EN 45545-2 |
| Railway classification rating | HL3/HL3 | | EN 45545-2 |

Electrical properties

| | | | |
|--------------------|-----------|-------|---------------|
| | dry/cond. | | |
| Volume resistivity | 1E13/- | Ohm.m | IEC 62631-3-1 |

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Physical/Other properties

| | dry/cond. | | |
|--------------------------|-----------|-------------------|----------------|
| Humidity absorption, 2mm | 1.5/* | % | Sim. to ISO 62 |
| Water absorption, 2mm | 4/* | % | Sim. to ISO 62 |
| Density | 1440/- | kg/m ³ | ISO 1183 |

Injection

| | |
|---------------------------------|----------|
| Drying Recommended | yes |
| Drying Temperature | 80 °C |
| Drying Time, Dehumidified Dryer | 2 - 4 h |
| Processing Moisture Content | ≤0.1 % |
| Melt Temperature Optimum | 250 °C |
| Min. melt temperature | 240 °C |
| Max. melt temperature | 260 °C |
| Screw tangential speed | ≤0.2 m/s |
| Mold Temperature Optimum | 80 °C |
| Min. mould temperature | 60 °C |
| Max. mould temperature | 90 °C |

Characteristics

| | |
|-------------------------|---|
| Processing | Injection Moulding |
| Additives | Flame retardant, Non-halogenated/Red phosphorous free flame retardant |
| Special characteristics | Flame retardant, Heat stabilised or stable to heat |