

FRIANYL® A3 GF20 V2XI NC 1101/E

FRIANYL®

Designed for Electrical applications requiring self-extinguishing properties combined with ignition resistance, this grade meets the most stringent safety requirements for insulating materials for the household appliance industry.

Product information

| | | |
|--------------------------------|-----------------------|-------------|
| Resin Identification | PA66-GF20 FR(16+72) | ISO 1043 |
| Part Marking Code | >PA66-GF20 FR(16+72)< | ISO 11469 |
| Continuous Service Temperature | 120 °C | IEC 60216-1 |

Rheological properties

| | | |
|------------------------------------|-------------|-----------------|
| Moulding shrinkage range, parallel | 0.3 - 0.6 % | ISO 294-4, 2577 |
| Moulding shrinkage range, normal | 0.5 - 0.8 % | ISO 294-4, 2577 |

Typical mechanical properties

| | dry/cond. | | |
|------------------------------------|-------------------------|-------------------|--------------|
| Tensile modulus | 6800 / - | MPa | ISO 527-1/-2 |
| Tensile strain at yield, 50mm/min | 2.5 / - | % | ISO 527-1/-2 |
| Tensile stress at break, 5mm/min | 115 / - | MPa | ISO 527-1/-2 |
| Flexural modulus | 6100 / - | MPa | ISO 178 |
| Flexural strength | 150 / - | MPa | ISO 178 |
| Charpy impact strength, 23°C | 40 / - | kJ/m ² | ISO 179/1eU |
| Izod notched impact strength, 23°C | 8 / - | kJ/m ² | ISO 180/1A |
| Poisson's ratio | 0.35 / - ^[C] | | |
| [C]: Calculated | | | |

Thermal properties

| | dry/cond. | | |
|--|-----------|----|----------------|
| Temperature of deflection under load, 1.8 MPa | 225 / * | °C | ISO 75-1/-2 |
| Temperature of deflection under load, 0.45 MPa | 250 / * | °C | ISO 75-1/-2 |
| Ball pressure test | 175 / - | °C | IEC 60695-10-2 |

Flammability

| | dry/cond. | | |
|--|-----------|-------|----------------------|
| Burning Behav. at 1.5mm nom. thickn. | V-2 / * | class | IEC 60695-11-10 |
| Burning Behav. at thickness h | V-0 / * | class | IEC 60695-11-10 |
| Thickness tested | 3.2 / * | 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 | 900 / - | °C | IEC 60695-2-13 |
| Glow Wire Ignition Temperature, 3.0mm | 900 / - | °C | IEC 60695-2-13 |
| FMVSS Class | SE | | ISO 3795 (FMVSS 302) |

Physical/Other properties

| | dry/cond. | | |
|--------------------------|-----------|-------------------|----------------|
| Humidity absorption, 2mm | 1.1 / * | % | Sim. to ISO 62 |
| Water absorption, 2mm | 4 / * | % | Sim. to ISO 62 |
| Density | 1490 / - | kg/m ³ | ISO 1183 |

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Injection

| | |
|---------------------------------|----------|
| Drying Recommended | yes |
| Drying Temperature | 80 °C |
| Drying Time, Dehumidified Dryer | 2 - 4 h |
| Processing Moisture Content | ≤0.1 % |
| Melt Temperature Optimum | 280 °C |
| Min. melt temperature | 265 °C |
| Max. melt temperature | 290 °C |
| Screw tangential speed | ≤0.2 m/s |
| Mold Temperature Optimum | 80 °C |
| Min. mould temperature | 70 °C |
| Max. mould temperature | 90 °C |
| Ejection temperature | 224 °C |

Characteristics

| | |
|-------------------------|--|
| Processing | Injection Moulding |
| Delivery form | Granules |
| Additives | Flame retardant |
| Special characteristics | Flame retardant, Heat stabilised or stable to heat |