

# FRIANYL® B3 H V0

## FRIANYL®

Designed for any electrical application that require self-extinguishing properties, excellent surface quality and flexibility of use.

### Product information

|                      |              |           |
|----------------------|--------------|-----------|
| Resin Identification | PA6-FR(30)   | ISO 1043  |
| Part Marking Code    | >PA6-FR(30)< | ISO 11469 |

### Rheological properties

|                                    |             |                 |
|------------------------------------|-------------|-----------------|
| Moulding shrinkage range, parallel | 1.1 - 1.5 % | ISO 294-4, 2577 |
| Moulding shrinkage range, normal   | 1.1 - 1.5 % | ISO 294-4, 2577 |

### Typical mechanical properties

|                                      |                       |                   |              |
|--------------------------------------|-----------------------|-------------------|--------------|
|                                      | dry/cond.             |                   |              |
| Tensile modulus                      | 3300/-                | MPa               | ISO 527-1/-2 |
| Tensile stress at yield, 50mm/min    | 70/-                  | MPa               | ISO 527-1/-2 |
| Tensile strain at yield, 50mm/min    | 3.2/-                 | %                 | ISO 527-1/-2 |
| Flexural modulus                     | 3000/-                | MPa               | ISO 178      |
| Flexural strength                    | 120/-                 | MPa               | ISO 178      |
| Charpy impact strength, 23°C         | 40/-                  | kJ/m <sup>2</sup> | ISO 179/1eU  |
| Charpy notched impact strength, 23°C | 3/-                   | kJ/m <sup>2</sup> | ISO 179/1eA  |
| Izod notched impact strength, 23°C   | 3.5/-                 | kJ/m <sup>2</sup> | ISO 180/1A   |
| Poisson's ratio                      | 0.37/- <sup>[C]</sup> |                   |              |

[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  | 70/*      | °C | ISO 75-1/-2    |
| Temperature of deflection under load, 0.45 MPa | 190/*     | °C | ISO 75-1/-2    |
| RTI, electrical, 0.75mm                        | 130       | °C | UL 746B        |
| RTI, impact, 0.75mm                            | 95        | °C | UL 746B        |
| RTI, strength, 0.75mm                          | 130       | °C | UL 746B        |

### Flammability

|                                      |           |       |                 |
|--------------------------------------|-----------|-------|-----------------|
|                                      | dry/cond. |       |                 |
| Burning Behav. at 1.5mm nom. thickn. | V-0/*     | class | IEC 60695-11-10 |
| 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  |

### Electrical properties

|                            |           |  |           |
|----------------------------|-----------|--|-----------|
|                            | dry/cond. |  |           |
| Comparative tracking index | 600/-     |  | IEC 60112 |

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### Physical/Other properties

|                          | dry/cond. |                   |                |
|--------------------------|-----------|-------------------|----------------|
| Humidity absorption, 2mm | 2/*       | %                 | Sim. to ISO 62 |
| Water absorption, 2mm    | 9/*       | %                 | Sim. to ISO 62 |
| Density                  | 1170/-    | kg/m <sup>3</sup> | 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        | 245 °C   |
| Min. melt temperature           | 235 °C   |
| Max. melt temperature           | 260 °C   |
| Screw tangential speed          | ≤0.2 m/s |
| Mold Temperature Optimum        | 70 °C    |
| Min. mould temperature          | 60 °C    |
| Max. mould temperature          | 90 °C    |

### Characteristics

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