

# FRIANYL® A3 RV0 BK 9005

## FRIANYL®

*Designed for Electrical applications requiring self-extinguishing properties combined with easy processability and good surface quality, this grade meets the most stringent safety requirements for insulating materials.*

### Product information

|                                |               |             |
|--------------------------------|---------------|-------------|
| Resin Identification           | PA66 FR(30)   | ISO 1043    |
| Part Marking Code              | >PA66 FR(30)< | ISO 11469   |
| Continuous Service Temperature | 130 °C        | IEC 60216-1 |

### Rheological properties

|                                    | dry/cond. |                    |                 |
|------------------------------------|-----------|--------------------|-----------------|
| Viscosity number                   | 135/*     | cm <sup>3</sup> /g | ISO 307, 1628   |
| Moulding shrinkage, parallel       | 1.2/-     | %                  | ISO 294-4, 2577 |
| Moulding shrinkage range, parallel | 1 - 1.4   | %                  | ISO 294-4, 2577 |
| Moulding shrinkage, normal         | 1.2/-     | %                  | ISO 294-4, 2577 |
| Moulding shrinkage range, normal   | 1 - 1.4   | %                  | ISO 294-4, 2577 |

### Typical mechanical properties

|                                       | dry/cond.                 |                   |              |
|---------------------------------------|---------------------------|-------------------|--------------|
| Tensile modulus                       | 3400/2400 <sup>[DS]</sup> | MPa               | ISO 527-1/-2 |
| Tensile stress at yield, 50mm/min     | 70/58 <sup>[DS]</sup>     | MPa               | ISO 527-1/-2 |
| Tensile strain at break, 50mm/min     | 2.5/10 <sup>[DS]</sup>    | %                 | ISO 527-1/-2 |
| Flexural modulus                      | 3500/-                    | MPa               | ISO 178      |
| Flexural strength                     | 110/-                     | MPa               | ISO 178      |
| Charpy impact strength, 23°C          | 35/>60 <sup>[C]</sup>     | kJ/m <sup>2</sup> | ISO 179/1eU  |
| Charpy notched impact strength, 23°C  | 3/5 <sup>[C]</sup>        | kJ/m <sup>2</sup> | ISO 179/1eA  |
| Charpy notched impact strength, -40°C | 3/-                       | kJ/m <sup>2</sup> | ISO 179/1eA  |
| Poisson's ratio                       | 0.37/0.38 <sup>[C]</sup>  |                   |              |

[DS]: Derived from similar grade

[C]: Calculated

### Thermal properties

|  | dry/cond.          |    |                |
|--|--------------------|----|----------------|
| Melting temperature, 10°C/min                  | 265/*              | °C | ISO 11357-1/-3 |
| Temperature of deflection under load, 1.8 MPa  | 85/*               | °C | ISO 75-1/-2    |
| Temperature of deflection under load, 0.45 MPa | 185/*              | °C | ISO 75-1/-2    |
| Vicat softening temperature, 50°C/h 50N        | 228/*              | °C | ISO 306        |
| Vicat softening temperature, 50°C/h 10N        | 250 <sup>[1]</sup> | °C | ISO 306        |

[1]: 22GMA021

### Flammability

|                                      | dry/cond. |       |                 |
|--------------------------------------|-----------|-------|-----------------|
| Burning Behav. at 1.5mm nom. thickn. | V-0/*     | class | IEC 60695-11-10 |
| Thickness tested                     | 1.5/*     | mm    | IEC 60695-11-10 |
| UL recognition                       | yes/*     |       | UL 94           |
| Burning Behav. at thickness h        | V-0/*     | class | IEC 60695-11-10 |
| Thickness tested                     | 0.25/*    | 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  |

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## Electrical properties

Comparative tracking index, 100 drops 600 IEC 60112

## Physical/Other properties

|                          | dry/cond. |                   |                |
|--------------------------|-----------|-------------------|----------------|
| Humidity absorption, 2mm | 2.2/*     | %                 | Sim. to ISO 62 |
| Water absorption, 2mm    | 7.9/*     | %                 | Sim. to ISO 62 |
| Density                  | 1160/-    | 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        | 275 °C   |
| Min. melt temperature           | 265 °C   |
| Max. melt temperature           | 285 °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                    |

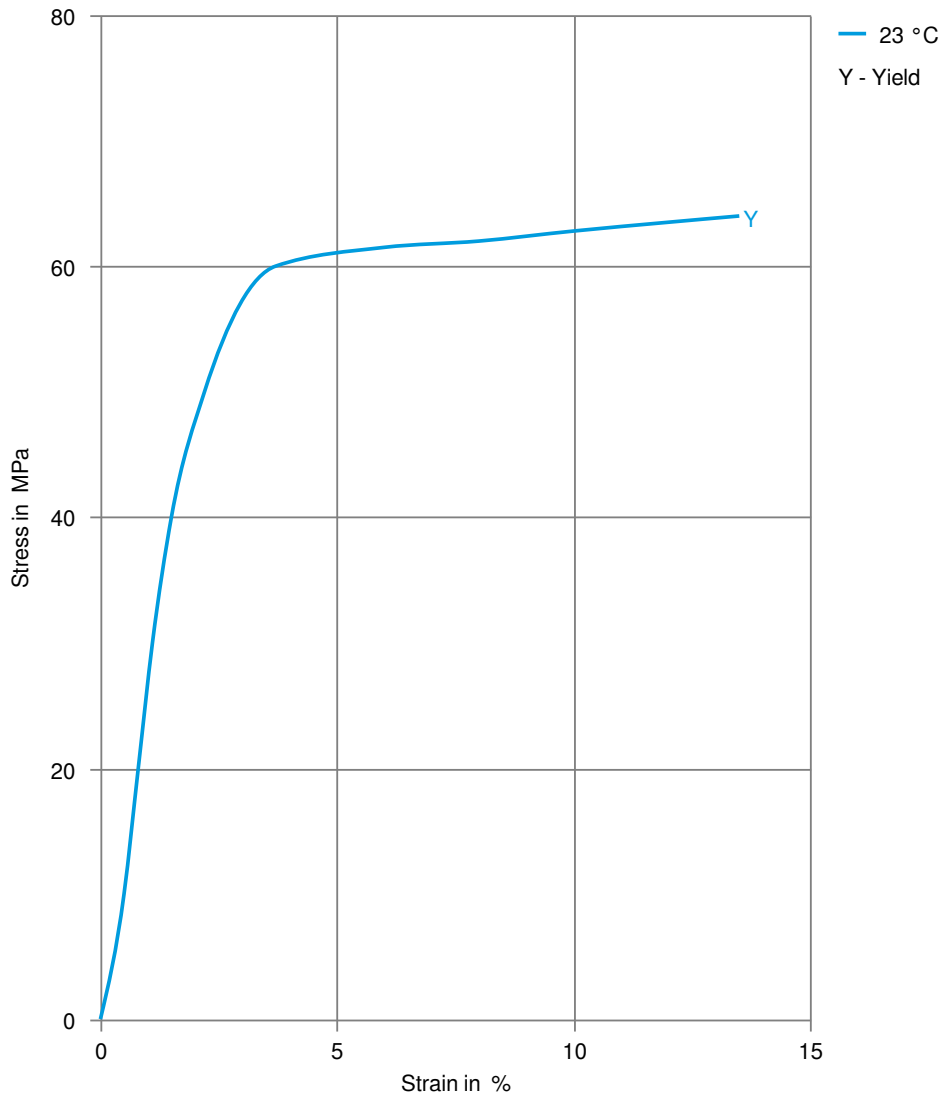
## Automotive

| OEM        | STANDARD                   | ADDITIONAL INFORMATION                                   |
|------------|----------------------------|--|
| Stellantis | B62 0300 / 61/217E/214M/C4 | Technical Black  |
| Stellantis | B62 0300 / 61/217E/214M/C4 | 100% Color Match   |
| VW Group   | VW 50133                   | *Best Fitting Grade To PA66-1-A, Not Officially Approved |

# FRIANYL® A3 RV0 BK 9005

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Stress-strain (cond.)



# FRIANYL® A3 RV0 BK 9005

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Secant modulus-strain (cond.)

