

# RADIFLAM A FR 9011 GRI

Material code      Colour code

## DESCRIPTION

PA66 flame retardant injection moulding grade. Halogen and phosphorus free. Grey colour RAL 7035.

Suitable for parts where fire retardancy is required. Rated V-0 at 0.4 mm according to UL-94. Also suitable for monofilament extrusion.

ISO 1043 : PA66 FR(30)

## MATERIAL HANDLING AND PROCESSING

The material is delivered in moisture-proof packaging ready for processing. Maximum recommended water content for best processing is 0.10%. Typical conditions with a desiccant drier: temperature 80 ° C, dew point -20 ° C or below, time 2-4 h or more.

Avoid excessive shear rates and high thermal stresses for better processing. Special care must be taken to avoid moisture absorption and contamination with other polymers when adding regrind material. Colour variation and mechanical properties reduction may occur and should always be carefully monitored.

### Processing Parameters

|                   |                   |                  |                 |
|-------------------|-------------------|------------------|-----------------|
| Melt Temperature: | Mold Temperature: | Injection Speed: | Extrusion Temp: |
| 270 ÷ 290 °C      | 60 ÷ 80 °C        | Medium           | 270 ÷ 290 °C    |

## PRODUCT SAFETY AND APPROVALS

For safety instruction please refer to Material Safety Data Sheet



RoHS compliant 2002/95/CE and following amendments





## Technical data sheet

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| PROPERTY                            | STANDARD                     | UNIT              | VALUE       |        |
|-------------------------------------|------------------------------|-------------------|-------------|--------|
|                                     |                              |                   | DAM*        | Cond** |
| <b>Physical Properties</b>          |                              |                   |             |        |
| Density                             | ISO 1183                     | Kg/m <sup>3</sup> | 1170        |        |
| Moisture absorption 23°C – 50%RH    | 2mm thk<br>ISO 62            | %                 | 1.8         |        |
| Water absorption, immersion at 23°C | 2mm thk<br>ISO 62            | %                 | 7.7         |        |
| <b>Mechanical Properties</b>        |                              |                   |             |        |
| Tensile Modulus                     | 1mm/min<br>ISO 527-2/1A      | MPa               | 3500        | 2550   |
| Stress at Yield                     | 50mm/min<br>ISO 527-2/1A     | MPa               | 78          | 50     |
| Nominal Strain at Break             | 50mm/min<br>ISO 527-2/1A     | %                 | 11          | >50    |
| Flexural Modulus                    | 2mm/min<br>ISO 178           | MPa               | 3200        |        |
| Flexural Strength                   | 2mm/min<br>ISO 178           | MPa               | 110         |        |
| Charpy Notched Impact Strength      | +23°C<br>ISO 179/1 eA        | KJ/m <sup>2</sup> | 4.5         | 6      |
| Charpy Notched Impact Strength      | -30°C<br>ISO 179/1 eA        | KJ/m <sup>2</sup> | 3.5         |        |
| <b>Thermal Properties</b>           |                              |                   |             |        |
| Melting Temperature                 | 10°C/min<br>ISO 11357-1-3    | °C                | 260         |        |
| Heat Deflection Temperature         | 1.8 MPa<br>ISO 75/2 A f      | °C                | 70          |        |
| Heat Deflection Temperature         | 0.45 MPa<br>ISO 75/2 B f     | °C                | 200         |        |
| Vicat Softening Temperature         | 50°C/h<br>ISO 306/B50 50N    | °C                | 220         |        |
| <b>Flammability Properties</b>      |                              |                   |             |        |
| Flammability                        | 0.4mm<br>UL 94               | class             | V0          |        |
| Flammability                        | 0.8mm<br>UL 94               | class             | V0          |        |
| Glow Wire Flammability Index        | 1mm / 2mm<br>IEC 60695-2-1/2 | °C/mm             | 960 / 960   |        |
| Glow Wire Ignition Temperature      | 1mm / 2mm<br>IEC 60695-2-1/3 | °C/mm             | >775 / >750 |        |
| Automotive interior flammability    | Burn rate<br>FMVSS302        | mm/min            | 0           |        |
| <b>Electrical Properties</b>        |                              |                   |             |        |
| Volume resistivity                  | 500V<br>IEC 60093            | ohm · m           | 1 E+13      | 1 E+11 |
| Surface resistivity                 | 500V<br>IEC 60093            | ohm               | 1 E+12      | 1 E+10 |
| Comparative Tracking Index          | Sol.A<br>IEC 60112           | V                 | 600         |        |

\*DAM = Dry As Moulded state \*\*Cond = Conditioned state similar to ISO 1110 \*\*\*Melt Temp [°C] / Mold Temp [°C] / Cavity press [MPa]

