# RADILON A RV350HHR 3800 BK

## DESCRIPTION

PA66 35% glass fibre reinforced injection moulding grade with enhanced thermal resistance in contact with hot air. High improvement of mechanical properties retention versus standard polyamide 66 after heat ageing.

Alternative to PPA and PA4.6 grades in automotive applications like turbo air ducts, CAC tanks, EGR housing. Continuous use temperature until 210 °C in air.

ISO 1043: PA66-GF35

REGIONAL AVAILABILITY: North America, Europe, Asia Pacific, South and Central America, Near East/Africa

## 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.

Injection Molding Processing Parameters

| Melt Temperature | Mold Temperature | Injection Speed |
|---|---|---|
| 280 - 300°C | 80 - 100°C | medium-high |

## PRODUCT SAFETY AND APPROVALS

For safety instruction please refer to Material Safety Data Sheet
Underwriters Laboratories Inc. certified material www.ul.com
ROHS compliant 2011/65/EU and following amendments

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| PROPERTY | | STANDARD | UNIT | VALUE DAM* | VALUE Cond** |
|---|---|---|---|---|---|
| **PHYSICAL PROPERTIES** | | | | | |
| Density | | ISO 1183 | kg/m³ | 1390 | |
| Moulding shrinkage - Parallel / Normal | 300/90/60 [1] | ISO 294-4 | % | 0.4 / 0.9 | |
| Water Absorption, immersion at 23°C | 2mm | ISO 62 | % | 6.3 | |
| Moisture Absorption 23°C - 50%RH | 2mm | ISO 62 | % | 1.5 | |
| **MECHANICAL PROPERTIES** | | | | | |
| Tensile Modulus | 1mm/min | ISO 527-2/1A | MPa | 10500 | 7600 |
| Stress at Break | 5mm/min | ISO 527-2/1A | MPa | 170 | 120 |
| Strain at Break | 5mm/min | ISO 527-2/1A | % | 3.5 | 6.5 |
| Flexural Modulus | 2mm/min | ISO 178 | MPa | 9500 | 7000 |
| Flexural Strength | 2mm/min | ISO 178 | MPa | 270 | 190 |
| Charpy Impact Strength | +23°C | ISO 179/1eU | kJ/m² | 95 | 90 |
| Charpy Impact Strength | -30°C | ISO 179/1eU | kJ/m² | 95 | |
| Charpy Notched Impact Strength | +23°C | ISO 179/1eA | kJ/m² | 16 | 20 |
| Charpy Notched Impact Strength | -30°C | ISO 179/1eA | kJ/m² | 14 | |
| **THERMAL PROPERTIES** | | | | | |
| Melting Temperature | 10°C/min | ISO 11357-1/-3 | °C | 260 | |
| Heat Deflection Temperature | 1.80 MPa | ISO 75/2Af | °C | 240 | |
| Heat Deflection Temperature | 0.45 MPa | ISO 75/2Bf | °C | 255 | |
| Ball Pressure Hardness | | IEC 60695-10-2 | °C | ≥160 | |
| **FLAMMABILITY PROPERTIES** | | | | | |
| Flammability | 0.8mm | UL 94 | class | HB | |
| Glow Wire Flammability Index | 2mm | IEC 60695-2-12 | °C | 700 | |
| Automotive Interior Flammability | | ISO 3795 | mm/min | 0 / | |
| **ELECTRICAL PROPERTIES** | | | | | |
| Volume Resistivity | 500V | IEC 62631-3-1 | Ohm*m | 1E13 | 1E11 |
| Surface Resistivity | 500V | IEC 62631-3-2 | Ohm | 1E12 | 1E10 |
| Comparative Tracking Index | Sol.A | IEC 60112 | V | 350 | |

*: DAM = Dry As Moulded state according to ISO 16396-2 , **: Cond = Conditioned state similar to ISO 1110

1: Melt Temperature [°C] / Mold Temperature [°C] / Cavity Pressure [MPa]

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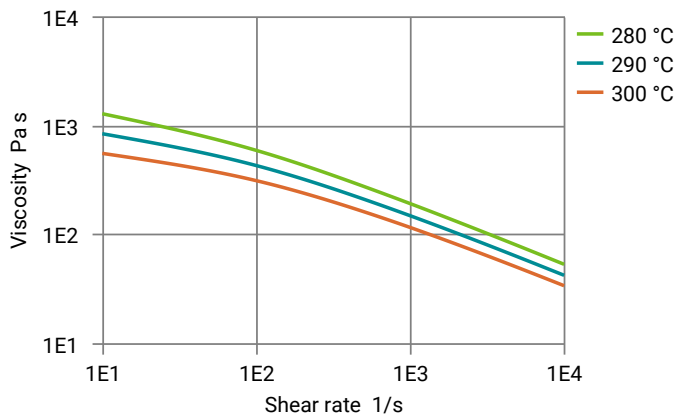
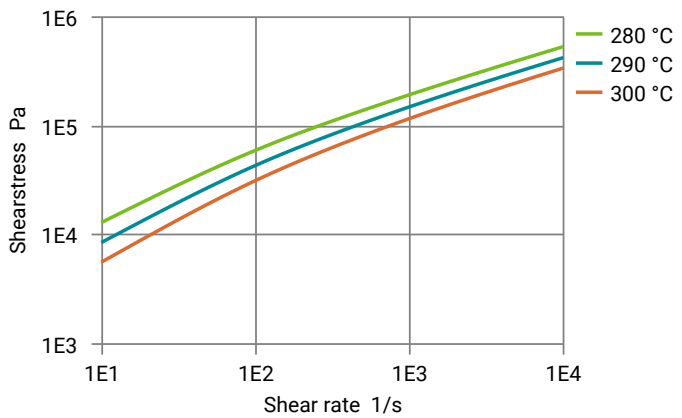
## DIAGRAMS

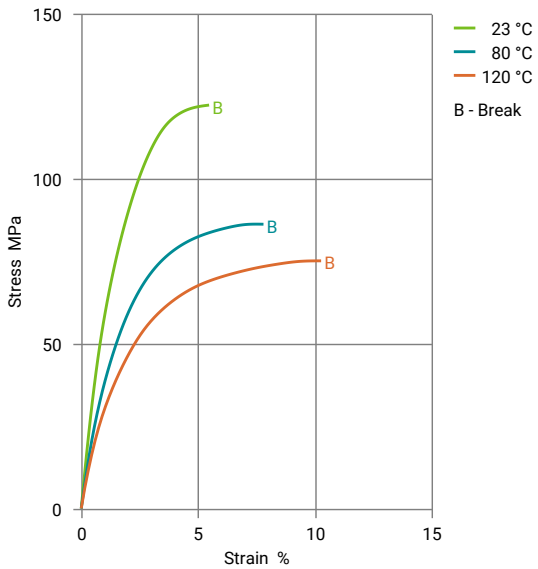
### Viscosity-shear rate



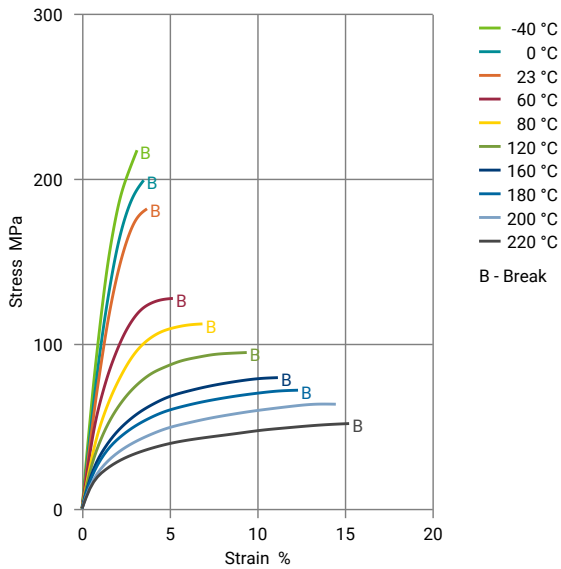

### Shearstress-shear rate




### Stress-strain (cond.)




### Stress-strain (dry)



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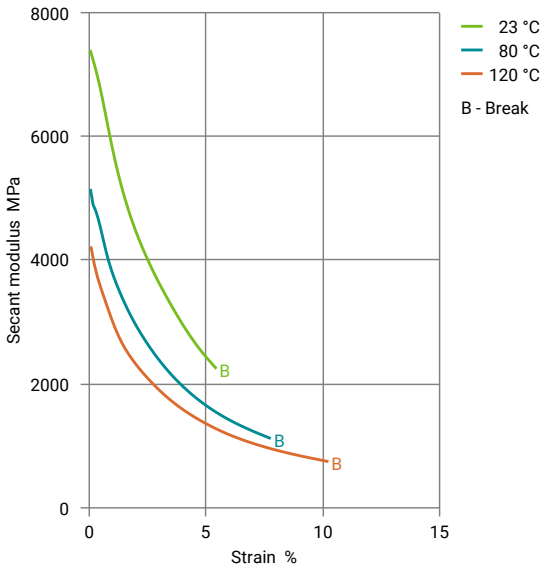
*Secant modulus-strain (cond.)*




*Secant modulus-strain (dry)*