RADILON A RV500RW 339 BK

DESCRIPTION

PA66 50% glass fibre reinforced injection moulding grade. Heat stabilized. Deep black colour.

Suitable for technical parts requiring very high stiffness and high mechanical resistance. Excellent heat ageing properties retention, improved welding lines strength. Especially fit for demanding metal replacement applications.

ISO 1043: PA66-GF50

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 0.15%. Typical conditions with a desiccant drier: temperature 80 ° C, dew point -20 ° C or below, time 2-4 h or more. 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 - 310°C	80 - 100°C	high

PRODUCT SAFETY AND APPROVALS

For safety instruction please refer to Material Safety Data Sheet
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	1590	
Melt Flow Rate	275/5 [1]	ISO 1133	g/10min	8.2	
Moulding shrinkage - Parallel / Normal	300/90/60 [2]	ISO 294-4	%	0.2 / 0.7	
Water Absorption, immersion at 23°C	2mm	ISO 62	%	4	
Moisture Absorption 23°C - 50%RH	2mm	ISO 62	%	1.1	
Viscosity Index (Sulfuric Acid)		ISO 307	ml/g	152	
MECHANICAL PROPERTIES					
Tensile Modulus	1mm/min	ISO 527-2/1A	MPa	17000	14250
Stress at Break	5mm/min	ISO 527-2/1A	MPa	240	190
Strain at Break	5mm/min	ISO 527-2/1A	%	2.9	3.1
Flexural Modulus	2mm/min	ISO 178	MPa	15700	15400
Flexural Strength	2mm/min	ISO 178	MPa	370	305
Charpy Impact Strength	+23°C	ISO 179/1eU	kJ/m²	100	112
Charpy Impact Strength	-30°C	ISO 179/1eU	kJ/m²	102	
Charpy Notched Impact Strength	+23°C	ISO 179/1eA	kJ/m²	20	25
Charpy Notched Impact Strength	-30°C	ISO 179/1eA	kJ/m²	17	
THERMAL PROPERTIES					
Melting Temperature	10°C/min	ISO 11357-1/-3	°C	260	
Heat Deflection Temperature	1.80 MPa	ISO 75/2Af	°C	250	
Heat Deflection Temperature	0.45 MPa	ISO 75/2Bf	°C	255	
Heat Deflection Temperature	8.00 MPa	ISO 75/2Cf	°C	215	
Vicat Softening Temperature	50°C/h 50N	ISO 306	°C	255	
Thermal Conductivity	23°C, inplane	-	W/(m K)	0.37	
Coeff. of Linear Therm. Expansion	parallel, 23°C-55°C	ISO 11359-1/-2	E-6/K	15	
Coeff. of Linear Therm. Expansion	normal, 23°C-55°C	ISO 11359-1/-2	E-6/K	85	
FLAMMABILITY PROPERTIES					
Flammability	0.8mm	UL 94	class	HB	
Glow Wire Flammability Index	1mm	IEC 60695-2-12	°C	700	
Glow Wire Flammability Index	2mm	IEC 60695-2-12	°C	700	
Glow Wire Ignition Temperature	1mm	IEC 60695-2-13	°C	725	
Glow Wire Ignition Temperature	2mm	IEC 60695-2-13	°C	725	
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	550	

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

1: Temperature [°C] / Load [kg]

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

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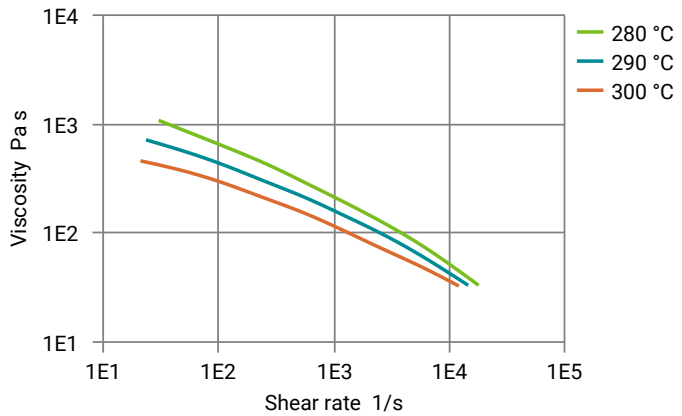
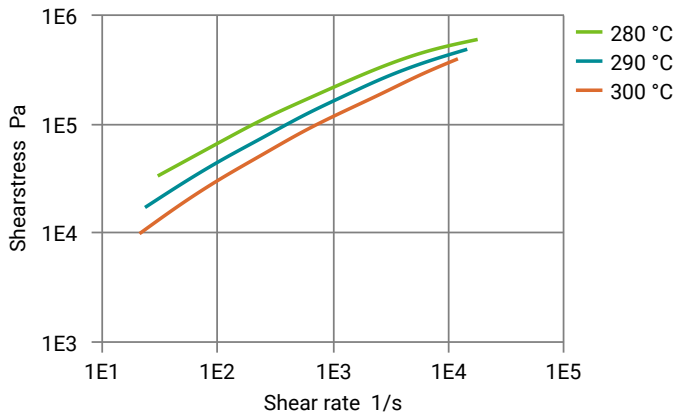
DIAGRAMS

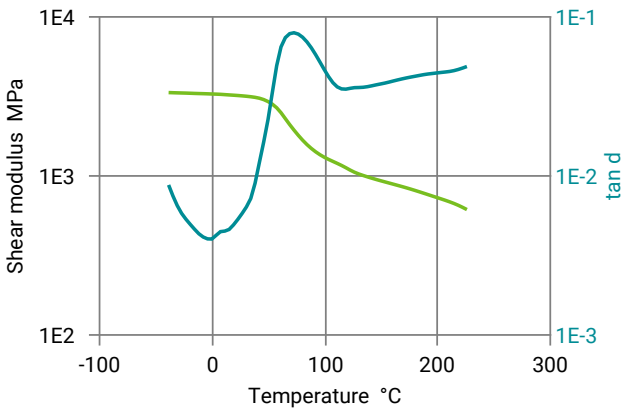
Viscosity-shear rate



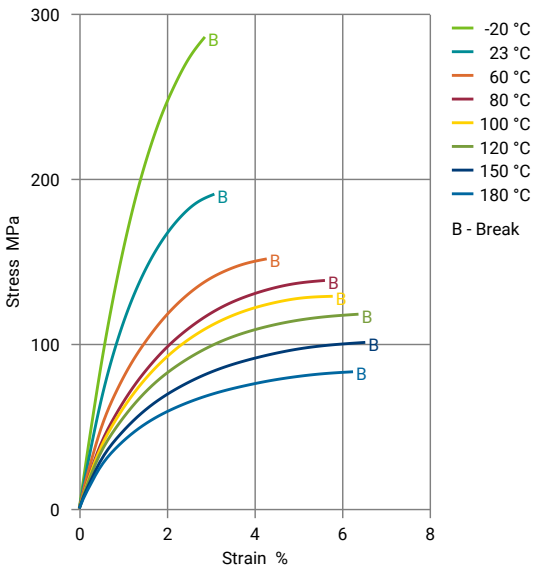
Shearstress-shear rate



Dynamic Shear modulus-temperature (dry)



Stress-strain (cond.)



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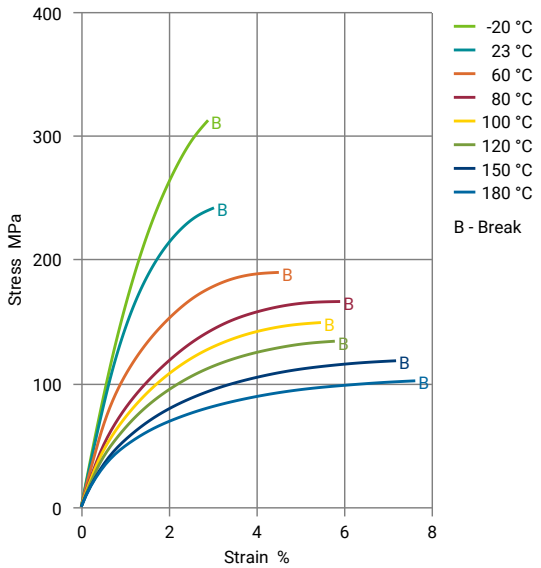
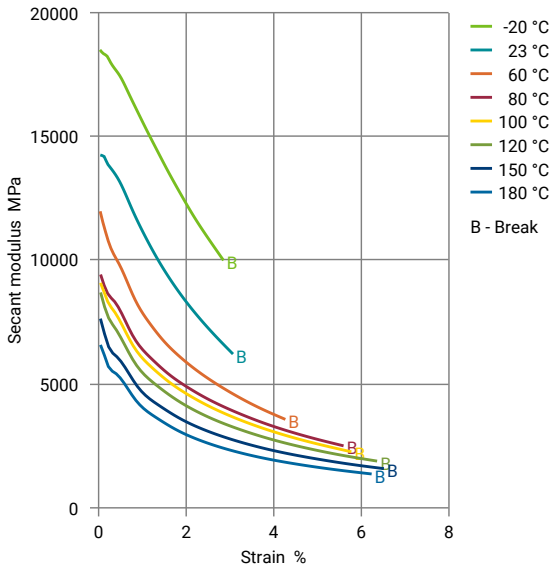
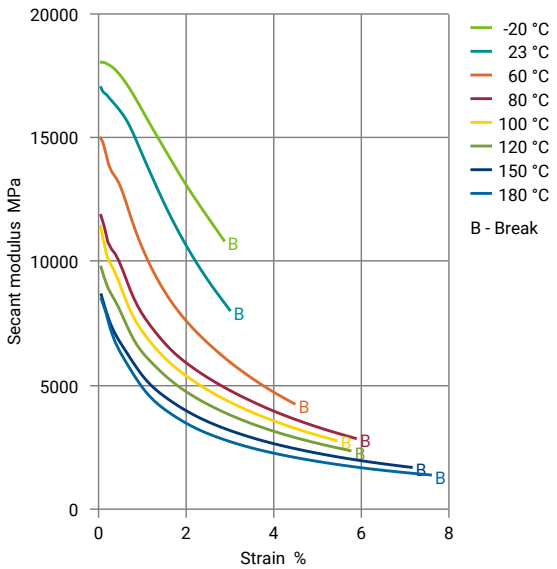
Stress-strain (dry)



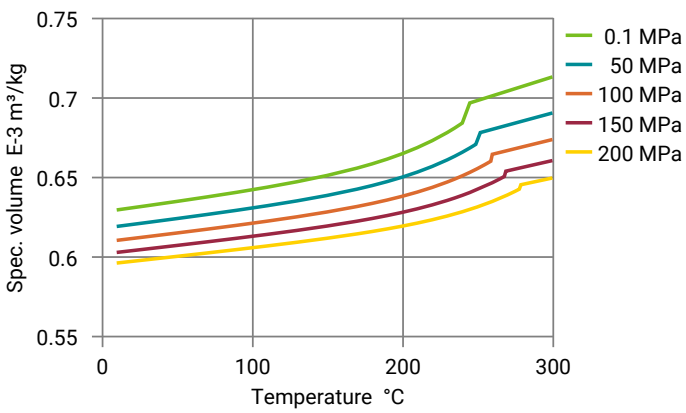
Secant modulus-strain (cond.)



Secant modulus-strain (dry)



Specific volume-temperature (pvT)



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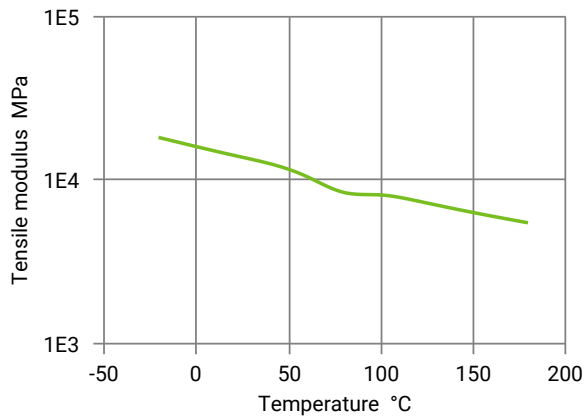
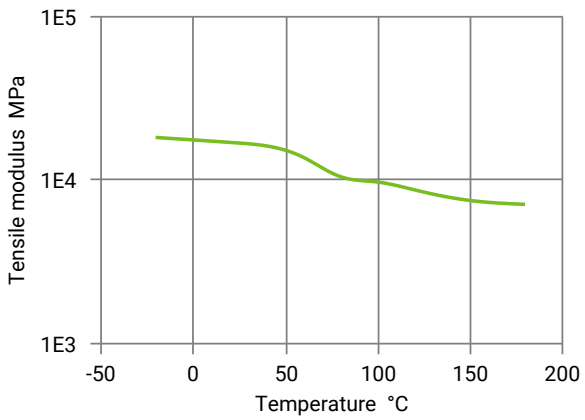
Tensile modulus-temperature (cond.)



Tensile modulus-temperature (dry)



Thermal expansion