RADILON S HS 105 M NT

DESCRIPTION

PA6 injection moulding grade. Nucleated, fast cycling. Natural colour.

General purpose grade, suitable for parts requiring high productivity.

ISO 1043: PA6

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
250 - 280°C	70 - 80°C	medium

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	1140	
Moulding shrinkage - Parallel / Normal	270/70/60 [1]	ISO 294-4	%	0.7 / 0.8	
Water Absorption, immersion at 23°C	2mm	ISO 62	%	9.5	
Moisture Absorption 23°C - 50%RH	2mm	ISO 62	%	2.7	
Viscosity Index (Sulfuric Acid)		ISO 307	ml/g	146	
MECHANICAL PROPERTIES					
Tensile Modulus	1mm/min	ISO 527-2/1A	MPa	3100	1200
Stress at Yield	50mm/min	ISO 527-2/1A	MPa	75	45
Yield Strain	50mm/min	ISO 527-2/1A	%	4.3	30
Nominal Strain at Break	50mm/min	ISO 527-2/1A	%	35	>50
Flexural Modulus	2mm/min	ISO 178	MPa	2800	
Flexural Strength	2mm/min	ISO 178	MPa	105	
Charpy Impact Strength	+23°C	ISO 179/1eU	kJ/m²	N	
Charpy Notched Impact Strength	+23°C	ISO 179/1eA	kJ/m²	5.5	35
Charpy Notched Impact Strength	-30°C	ISO 179/1eA	kJ/m²	4.5	
Rockwell Hardness	M	ISO 2039-2	-	92.5	
THERMAL PROPERTIES					
Melting Temperature	10°C/min	ISO 11357-1/-3	°C	220	
Heat Deflection Temperature	1.80 MPa	ISO 75/2Af	°C	60	
Heat Deflection Temperature	0.45 MPa	ISO 75/2Bf	°C	170	
Vicat Softening Temperature	50°C/h 50N	ISO 306	°C	190	
Coeff. of Linear Therm. Expansion	parallel, 23°C-55°C	ISO 11359-1/-2	E-6/K	85	
Coeff. of Linear Therm. Expansion	normal, 23°C-55°C	ISO 11359-1/-2	E-6/K	85	
Ball Pressure Hardness		IEC 60695-10-2	°C	≥170	
FLAMMABILITY PROPERTIES					
Flammability	0.8mm	UL 94	class	V-2	
Glow Wire Flammability Index	2mm	IEC 60695-2-12	°C	850	
Automotive Interior Flammability	3mm	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	600	

*: 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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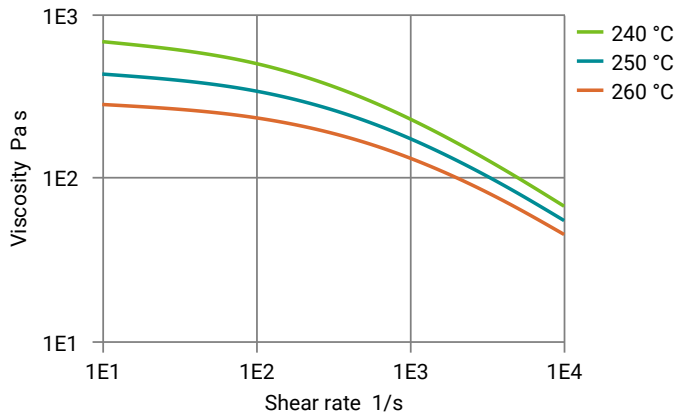
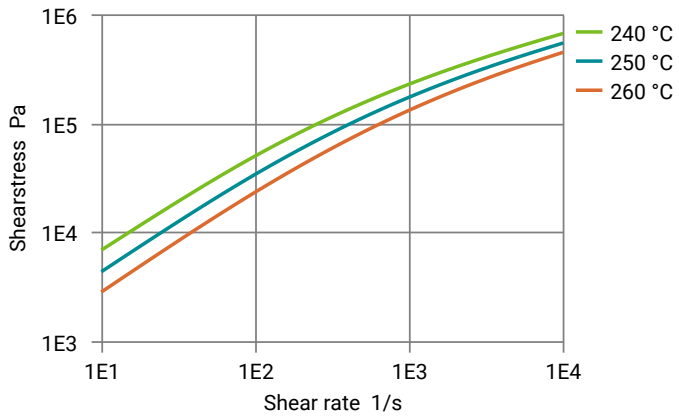
DIAGRAMS

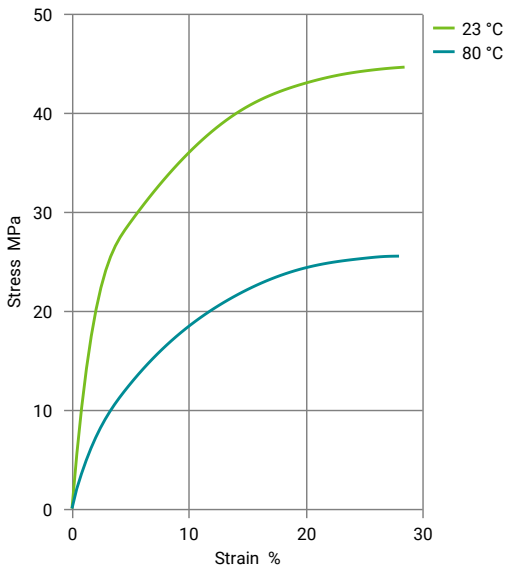
Viscosity-shear rate



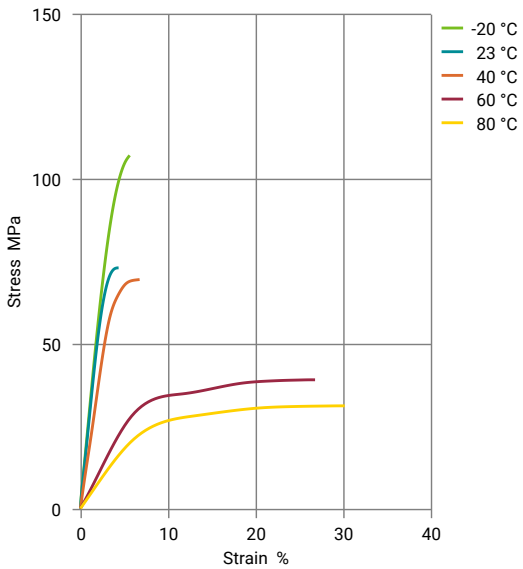
Shearstress-shear rate



Stress-strain (cond.)



Stress-strain (dry)



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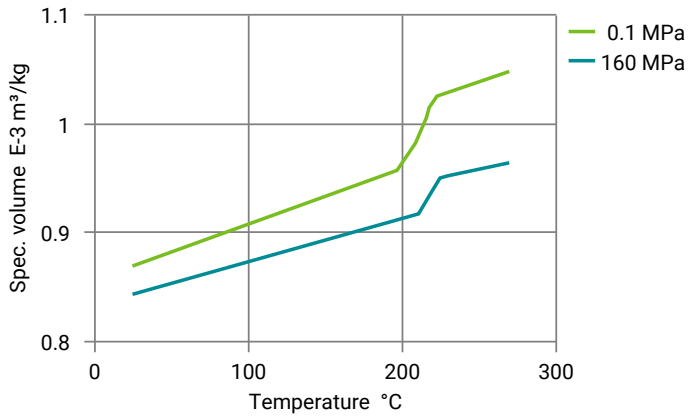
Specific volume-temperature (pvT)



Thermal expansion