

ORGALLOY® RS 6000 NAT

Orgalloy® RS 6000 NAT resin is a polyamide 6 alloy designed for injection molding. This natural grade offers an outstanding dimensional stability, chemical resistance to automotive fluids and is ideal for the realization of complex parts.

PROPERTIES	DRY / COND	UNIT	TEST STANDARD
RHEOLOGICAL PROPERTIES			
Melt Volume-Flow Rate	8 / *	cm³/10min	ISO 1133
Temperature	235 / *	°C	-
	455 / *	°F	
Load	2.16 / *	kg	-
	4.76 / *	lb	
Molding Shrinkage, parallel	0.7 / *	%	ISO 294-4, 2577
Molding Shrinkage, normal	0.9 / *	%	ISO 294-4, 2577
MECHANICAL PROPERTIES			
Tensile Modulus	2230 / 1950	MPa	ISO 527-1/-2
	323000 / 283000	psi	
Yield stress	55 / 48	MPa	ISO 527-1/-2
	7980 / 6960	psi	
Yield strain	4 / 6	%	ISO 527-1/-2
Nominal Strain at Break	15 / >50	%	ISO 527-1/-2
Shore D Hardness	73 / *	-	ISO 868
Tensile Creep Modulus, 1h	* / 2030	MPa	ISO 899-1
	* / 294000	psi	
Tensile Creep Modulus, 1000h	* / 7870	MPa	ISO 899-1
	* / 126000	psi	
Charpy Impact Strength, +23°C	-7 No Break	kJ/m²	ISO 179/1eU
Charpy Notched Impact Strength, +23°C	5 / 9	kJ/m²	ISO 179/1eA
	2.38 / 4.28	ftlb/in²	
THERMAL PROPERTIES			
Melting Temperature, 10°C/min	220 / *	°C	ISO 11357-1/-3
Temp. of Deflection Under Load, 1.80 MPa	54 / *	°C	ISO 75-1/-2
	129 / *	°F	
Temp. of Deflection Under Load, 0.45 MPa	130 / *	°C	ISO 75-1/-2
	266 / *	°F	
Vicat Softening Temperature, 50°C/h 50N	150 / *	°C	ISO 306
	302 / *	°F	

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Coeff. of Linear Thermal Expansion, parallel	93 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Thermal Expansion, normal	133 / *	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nominal Thickness	HB / *	class	IEC 60695-11-10
Thickness Tested	1.6 / *	mm	-
	0.0630 / *	in	
Burning Behav. at Thickness h	HB / *	class	IEC 60695-11-10
Thickness Tested	3.2 / *	mm	-
	0.1260 / *	in	
ELECTRICAL PROPERTIES			
Relative Permittivity, 100Hz	- / 3	-	IEC 60250
Relative Permittivity, 1MHz	- / 3	-	IEC 60250
Dissipation Factor, 100Hz	- / 620	E-4	IEC 60250
Dissipation Factor, 1MHz	- / 250	E-4	IEC 60250
Volume Resistivity	- / >1E13	Ohm*m	IEC 60093
Surface Resistivity	* / >1E15	Ohm	IEC 60093
Dielectric (Electric) Strength	38 / 38	kV/mm	IEC 60243-1
	965 / 965	kV/in	
Comparative Tracking Index	* / 600	-	IEC 60112
OTHER PROPERTIES			
Water Absorption	3.3 / *	%	Sim. to ISO 62
Humidity Absorption	1.3 / *	%	Sim. to ISO 62
Density	1030 / 1030	kg/m³	ISO 1183
	1.03 / 1.03	g/cm³	

MAIN APPLICATIONS: • Automotive tube clamping • Ablation plate for miniature circuit breaker • Electric connectors
• Sport parts

PACKAGING:

This grade is delivered dried in sealed packaging (25kg bags) ready to be processed.

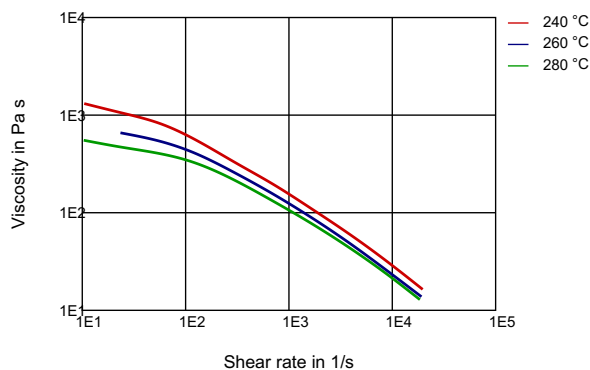
SHELF LIFE:

Two years from the date of delivery. For any use above this limit, please refer to our technical services.

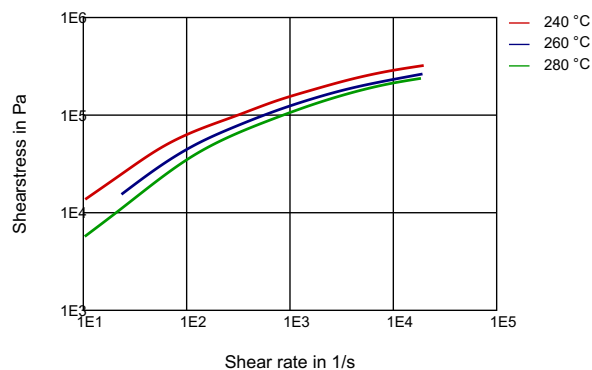
ORGALLOY[®] RS 6000 NAT

DIAGRAMS

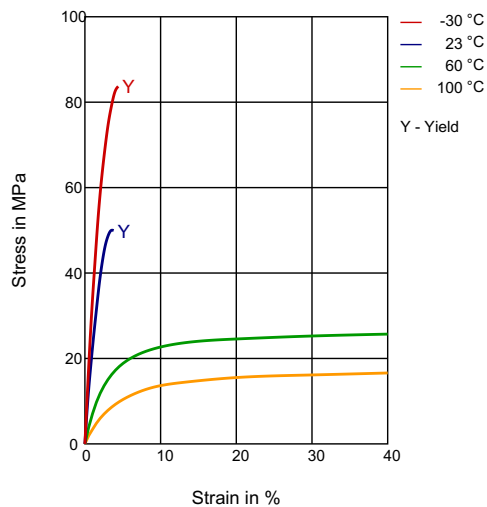
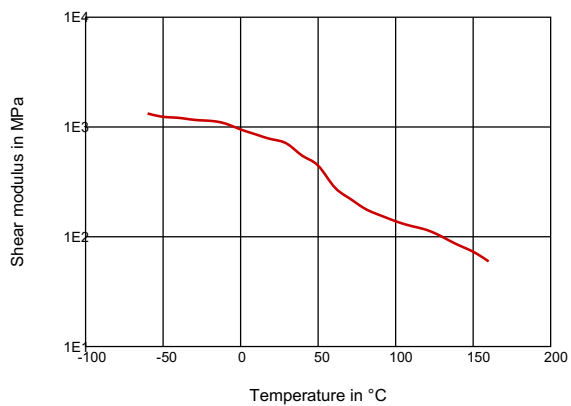
VISCOSITY-SHEAR RATE



SHEARSTRESS-SHEAR RATE

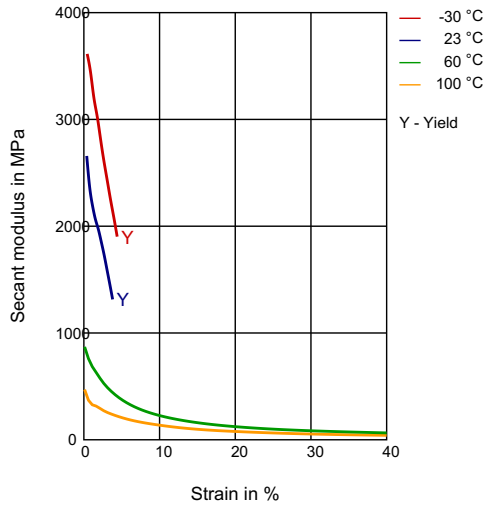


DYNAMIC SHEAR MODULUS-TEMPERATURE

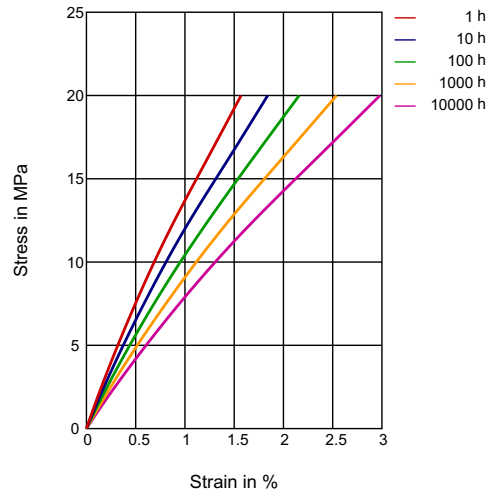


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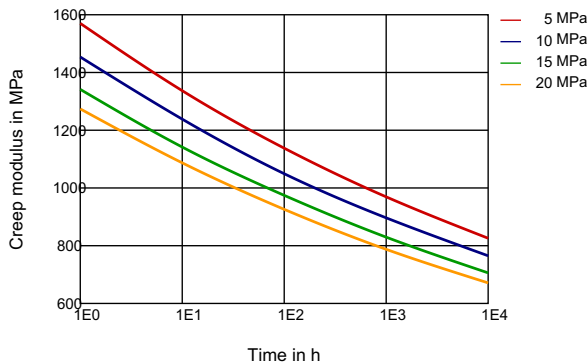
SECANT MODULUS-STRAIN



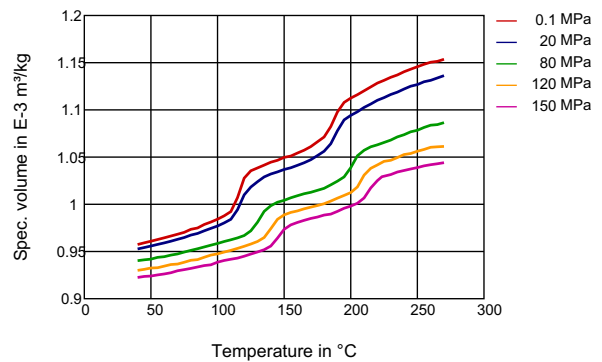
STRESS-STRAIN (ISOCRONOUS) 73°F



CREEP MODULUS-TIME 73°F



SPECIFIC VOLUME-TEMPERATURE (PVT)



Processing conditions:

- Drying time (only necessary for bags opened for more than two hours): 4-8 hours at 80°C
- Injection temperature (min-recommended-max): 260-270-280°C
- Mould temperature (min-max): 20-60°C

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PROCESSING Injection Molding	
DELIVERY FORM Pellets	
SPECIAL CHARACTERISTICS Heat Stabilized, Light Stabilized	
REGIONAL AVAILABILITY North America, Europe, Asia Pacific, South and Central America, Near East/Africa	