

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 / *	cm ³ /10 min	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	2280 / 2030	MPa	ISO 527-1/-2
	331000 / 294000	psi	
Yield Stress	55 / 47	MPa	ISO 527-1/-2
	7980 / 6820	psi	
Yield Strain	4 / 6	%	ISO 527-1/-2
Nominal Strain at Break	14 / 21	%	ISO 527-1/-2
Stress at Break	44 / 40	MPa	ISO 527-1/-2
	6380 / 5800	psi	
Shore D Hardness, after 15 s	73 / *	-	ISO 868
Tensile Creep Modulus, 1h	* / 2030	MPa	ISO 899-1
	* / 294000	psi	
Tensile Creep Modulus, 1000h	* / 870	MPa	ISO 899-1
	* / 126000	psi	
Charpy Impact Strength, +23°C	61 / 67	kJ/m ²	ISO 179/1eU
	29 / 31.9	ftlb/in ²	
Charpy Impact Strength, -30°C	59 / 59	kJ/m ²	ISO 179/1eU
	28.1 / 28.1	ftlb/in ²	
Charpy Notched Impact Strength, +23°C	7 / 8	kJ/m ²	ISO 179/1eA
	3.33 / 3.81	ftlb/in ²	
Charpy Notched Impact Strength, -30°C	5 / 5	kJ/m ²	ISO 179/1eA
	2.38 / 2.38	ftlb/in ²	
THERMAL PROPERTIES			
Melting Temperature, 10°C/min	220 / *	°C	ISO 11357-1/-3

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 Source: automatically generated TDS from Material Database on 20-02-2024

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Temp. of Deflection Under Load, 1.80 MPa	71 / *	°C	ISO 75-1/-2
	160 / *	°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	
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 62631-3-1
Surface Resistivity	* / >1E15	Ohm	IEC 62631-3-2
Dielectric (Electric) Strength	38 / 38	kV/mm	IEC 60243-1
	965 / 965	kV/in	
Comparative Tracking Index	* / 600	-	IEC 60112
OTHER PROPERTIES			
Water Absorption, 23°C, immersion, equilibrium	6.6 / *	%	ISO 62
Humidity Absorption, 23°C, RH50%, equilibrium	2.2 / *	%	ISO 62
Density	1030 / 1030	kg/m ³	ISO 1183
	1.03 / 1.03	g/cm ³	

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.

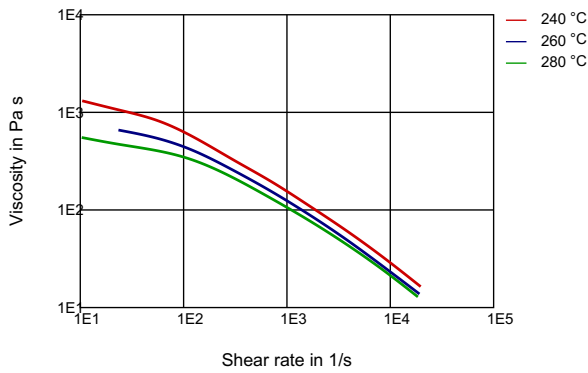
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SHELF LIFE:

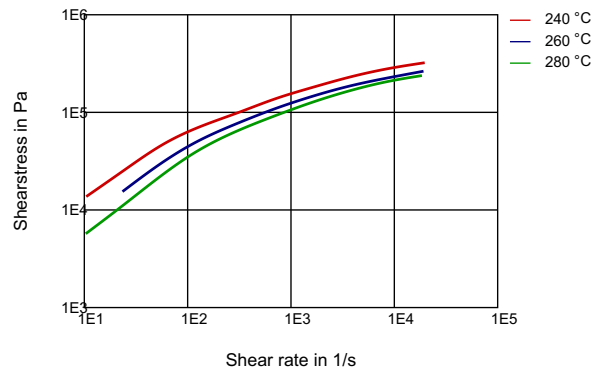
Two years from the date of delivery. For any use above this limit, please refer to our technical services.

DIAGRAMS

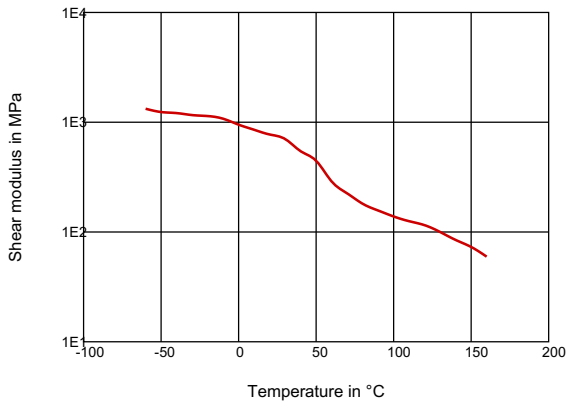
VISCOSITY-SHEAR RATE



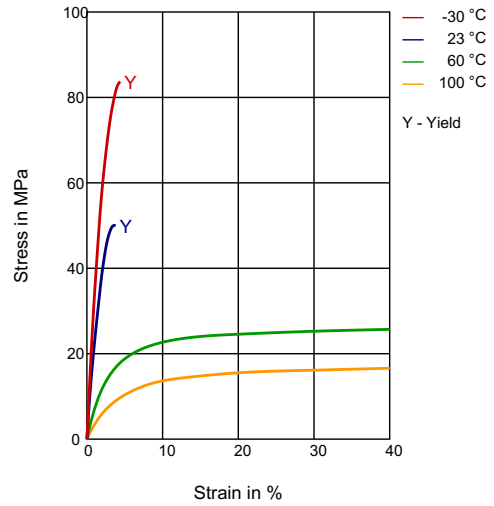
SHEARSTRESS-SHEAR RATE



DYN. SHEAR MODULUS-TEMPERATURE



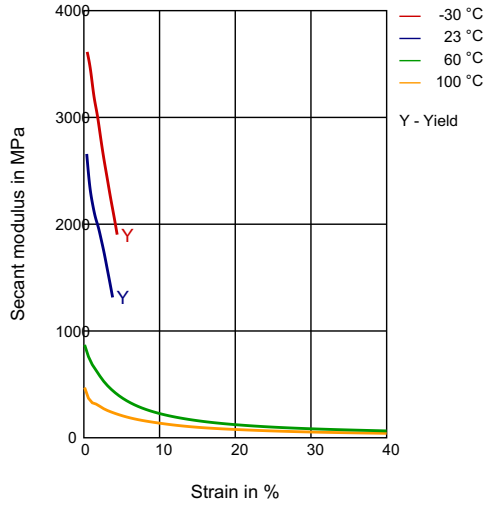
STRESS-STRAIN



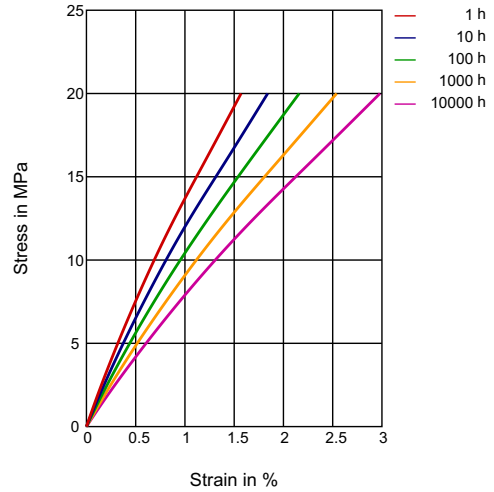
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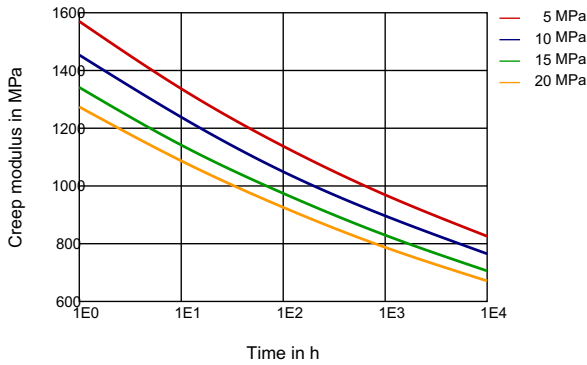
SECANT MODULUS-STRAIN



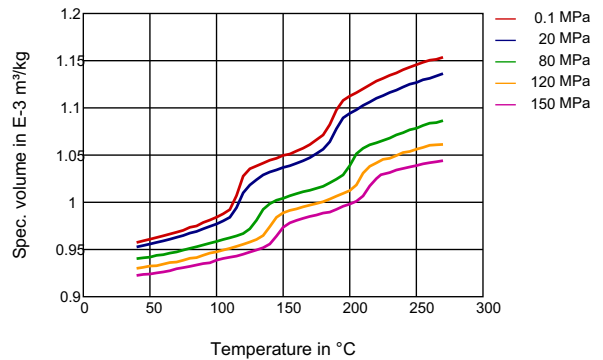
STRESS-STRAIN (ISOCHRONOUS) 73°F



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

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