

ORGALLOY® LE 6000 NAT

Orgalloy® LE 6000 NAT resin is a polyamide alloy especially designed for cable sheathing and blown film extrusion. This natural grade dedicated to extrusion offers excellent barrier properties and chemical resistance to hydrocarbons, alcohols and solvents. Conform to the European regulations concerning materials in contact with foodstuffs.

PROPERTIES	DRY / COND	UNIT	TEST STANDARD
RHEOLOGICAL PROPERTIES			
Melt Volume-Flow Rate	3.5 / *	cm³/10min	ISO 1133
Temperature	235 / *	°C	-
	455 / *	°F	
Load	2.16 / *	kg	-
	4.76 / *	lb	
Molding Shrinkage, parallel	0.8 / *	%	ISO 294-4, 2577
Molding Shrinkage, normal	0.7 / *	%	ISO 294-4, 2577
MECHANICAL PROPERTIES			
Tensile Modulus	1815 / 1400	MPa	ISO 527-1/-2
	263000 / 203000	psi	
Yield stress	44 / 36	MPa	ISO 527-1/-2
	6380 / 5220	psi	
Yield strain	4 / 7	%	ISO 527-1/-2
Nominal Strain at Break	>50 / >50	%	ISO 527-1/-2
Shore D Hardness	66 / *	-	ISO 868
Tensile Creep Modulus, 1h	* / 1130	MPa	ISO 899-1
	* /	psi	
Tensile Creep Modulus, 1000h	164000 * / 520	MPa	ISO 899-1
	* /	psi	
Charpy Impact Strength, +23°C	75400 - 7 No Break	kJ/m²	ISO 179/1eU
Charpy Notched Impact Strength, +23°C	29 / 35	kJ/m²	ISO 179/1eA
	13.8 / 16.6	ftlb/in²	
Stress at Yield, parallel	25 / *	MPa	ISO 527-3
	3630 / *	psi	
Stress at Yield, normal	26 / *	MPa	ISO 527-3
	3770 / *	psi	
Strain at Yield, parallel	20 / *	%	ISO 527-3
Strain at Yield, normal	14 / *	%	ISO 527-3

ORGALLOY® LE 6000 NAT

Maximum Stress, parallel	53 / *	MPa	ISO 527-3
	7690 / *	psi	
Maximum Stress, normal	41 / *	MPa	ISO 527-3
	5950 / *	psi	
Maximum Strain, parallel	410 / *	%	ISO 527-3
Maximum Strain, normal	490 / *	%	ISO 527-3
Elmendorf Tear Resistance, parallel	25 / *	N	ISO 6383-2
Elmendorf Tear Resistance, normal	150 / *	N	ISO 6383-2
Dart Drop B	313 / *	g	ISO 7765-1
THERMAL PROPERTIES			
Melting Temperature, 10°C/min	220 / *	°C	ISO 11357-1/-3
Temp. of Deflection Under Load, 1.80 MPa	45 / *	°C	ISO 75-1/-2
	113 / *	°F	
Vicat Softening Temperature, 50°C/h 50N	118 / *	°C	ISO 306
	244 / *	°F	
Burning Behav. at 1.5 mm Nominal Thickness	HB / *	class	IEC 60695-11-10
Thickness Tested	1.6 / *	mm	-
	0.0630 / *	in	
Yellow Card available	yes / *	-	-
Burning Behav. at Thickness h	HB / *	class	IEC 60695-11-10
Thickness Tested	3.2 / *	mm	-
	0.1260 / *	in	
Yellow Card available	yes / *	-	-
ELECTRICAL PROPERTIES			
Comparative Tracking Index	* / 600	-	IEC 60112
OTHER PROPERTIES			
Water Absorption	6.4 / *	%	Sim. to ISO 62
Humidity Absorption	1.8 / *	%	Sim. to ISO 62
Density	1040 / 1040	kg/m³	ISO 1183
	1.04 / 1.04	g/cm³	
FILM PROPERTIES			
WVTR, 23°C/85%r.h.	60 / *	g/(m²*d)	ISO 15106-1/-2
Oxygen Transmission Rate, 23°C/0%r.h.	90 / *	cm³/(m²*d*bar)	ISO 15105-1/-2
Oxygen Transmission Rate, 23°C/85%r.h.	90 / *	cm³/(m²*d*bar)	ISO 15105-1/-2

ORGALLOY[®] LE 6000 NAT

Carbon Dioxide Transmission Rate, 23°C/0%r.h.	290 / *	cm ³ /(m ² *d*bar)	ISO 15105-1/-2
Carbon Dioxide Transmission Rate, 23°C/85%r.h.	290 / *	cm ³ /(m ² *d*bar)	ISO 15105-1/-2

MAIN APPLICATIONS:

- Hydrocarbons barrier layer for power & data cables
- Food and chemical packaging

PACKAGING:

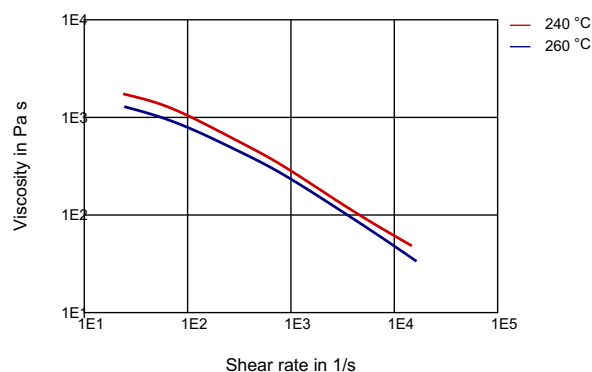
This grade is delivered dried in sealed packaging (25kg bags) ready to be processed.

SHELF LIFE:

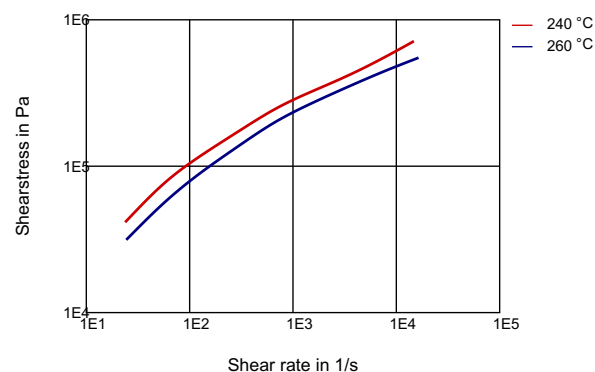
Two years from the date of delivery. For any use above this limit, please refer to our technical services.

DIAGRAMS

VISCOSITY-SHEAR RATE

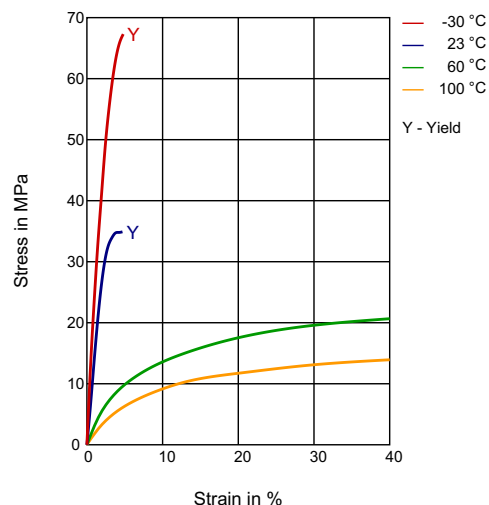
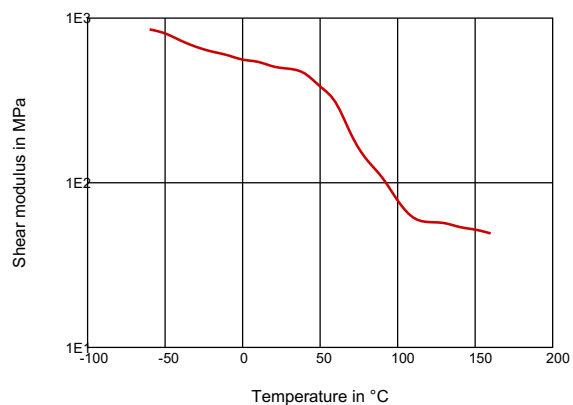


SHEARSTRESS-SHEAR RATE

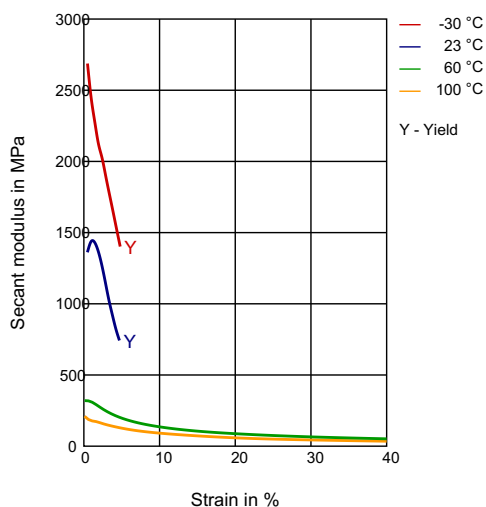


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DYNAMIC SHEAR MODULUS-TEMPERATURE STRESS-STRAIN



SECANT MODULUS-STRAIN



Processing conditions:

- Drying time (only necessary for bags opened for more than two hours): 4-8 hours at 80 °C
- Extrusion melt temperature (min-recommended-max): 250-260-270 °C

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