

ORGALLOY®

LT 5050 T6L NAT

Orgalloy® LT 5050 T6L NAT resin is a polyamide alloy especially designed for tube extrusion. This natural grade dedicated to extrusion offers good barrier properties and chemical resistance to oils and HFC gas, a high thermal resistance and flexibility.

PROPERTIES	DRY / COND	UNIT	TEST STANDARD
RHEOLOGICAL PROPERTIES			
Melt Volume-Flow Rate	1.8 / *	cm ³ /10 min	ISO 1133
Temperature	235 / *	°C	-
	455 / *	°F	-
Load	5 / *	kg	-
	11 / *	lb	-
MECHANICAL PROPERTIES			
Tensile Modulus	- / 470	MPa	ISO 527-1/-2
	- / 68200	psi	
Yield Stress	- / 18	MPa	ISO 527-1/-2
	- / 2610	psi	
Yield Strain	- / 31	%	ISO 527-1/-2
Stress at Break	- / 34	MPa	ISO 527-1/-2
	- / 4930	psi	
Strain at Break	- / >50	%	ISO 527-1/-2
Shore D Hardness, after 15 s	55 / *	-	ISO 868
Tensile Creep Modulus, 1h	* / 420	MPa	ISO 899-1
	* / 60900	psi	
Tensile Creep Modulus, 1000h	* / 270	MPa	ISO 899-1
	* / 39200	psi	
Charpy Impact Strength, +23°C	No Break / No Break	kJ/m ²	ISO 179/1eU
Charpy Impact Strength, -30°C	No Break / No Break	kJ/m ²	ISO 179/1eU
Charpy Notched Impact Strength, +23°C	76 / 82	kJ/m ²	ISO 179/1eA
	36.2 / 39	ftlb/in ²	
Charpy Notched Impact Strength, -30°C	28 / 30	kJ/m ²	ISO 179/1eA
	13.3 / 14.3	ftlb/in ²	
THERMAL PROPERTIES			
Melting Temperature, 10°C/min	220 / *	°C	ISO 11357-1/-3
Vicat Softening Temperature, 50°C/h 50N	75 / *	°C	ISO 306
	167 / *	°F	
Coeff. of Linear Thermal Expansion, parallel	170 / *	E-6/K	ISO 11359-1/-2

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

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Coeff. of Linear Thermal Expansion, normal	180 / *	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	- / 4	-	IEC 60250
Relative Permittivity, 1MHz	- / 4	-	IEC 60250
Dissipation Factor, 100Hz	- / 1100	E-4	IEC 60250
Dissipation Factor, 1MHz	- / 500	E-4	IEC 60250
Volume Resistivity	- / 7.4E11	Ohm* m	IEC 62631-3-1
Surface Resistivity	* / >1E15	Ohm	IEC 62631-3-2
Dielectric (Electric) Strength	36 / 36	kV/mm	IEC 60243-1
	914 / 914	kV/in	
Comparative Tracking Index	* / 600	-	IEC 60112
OTHER PROPERTIES			
Water Absorption, 23°C, immersion, equilibrium	5.6 / *	%	ISO 62
Humidity Absorption, 23°C, RH50%, equilibrium	2 / *	%	ISO 62
Density	1040 / 1040	kg/m ³	ISO 1183
	1.04 / 1.04	g/cm ³	

MAIN APPLICATIONS: • Barrier layer for air conditioning hoses • Barrier layer for LPG lines

PACKAGING:

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

SHELF LIFE:

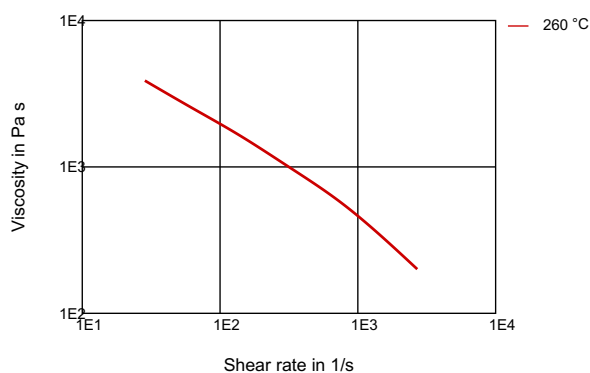
Two years from the date of delivery. For any use above this limit, please refer to our technical services.

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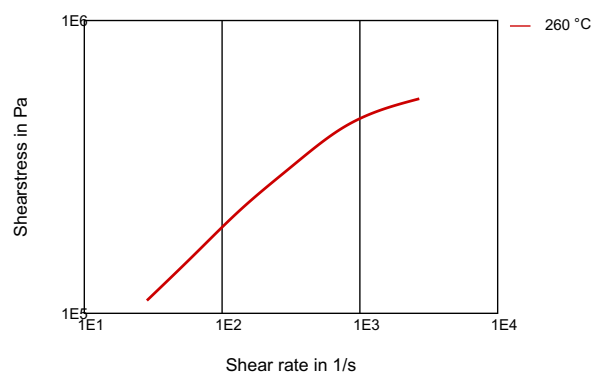
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DIAGRAMS

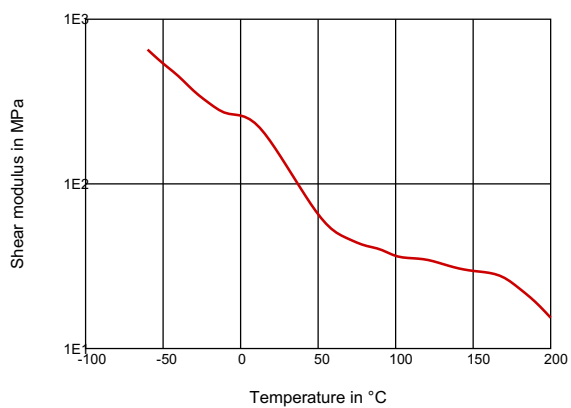
VISCOSITY-SHEAR RATE



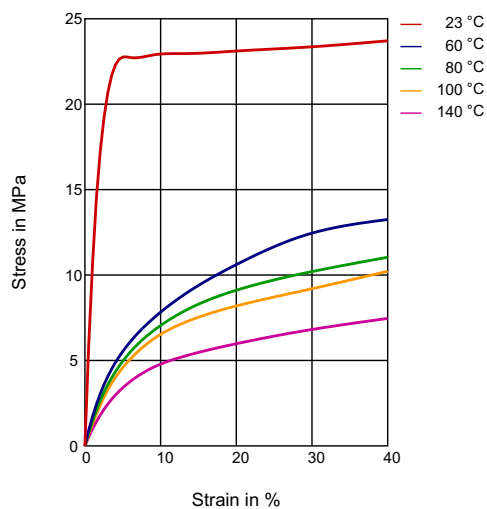
SHEARSTRESS-SHEAR RATE



DYN. SHEAR MODULUS-TEMPERATURE



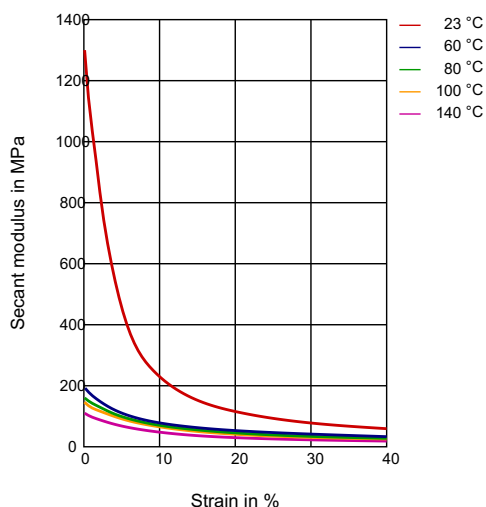
STRESS-STRAIN



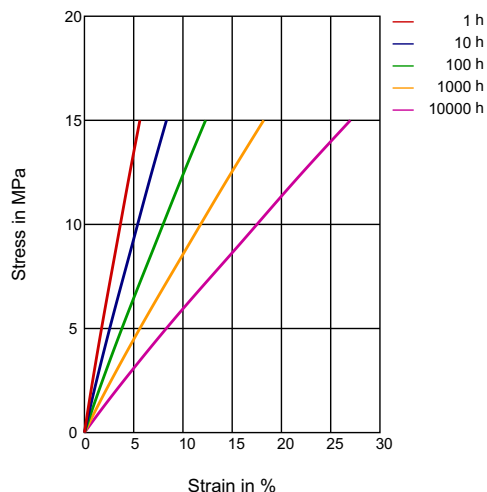
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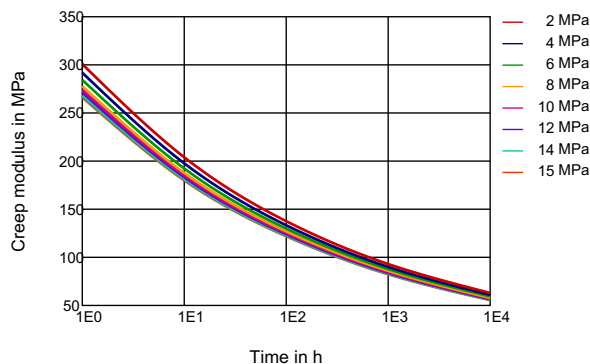
SECANT MODULUS-STRAIN



STRESS-STRAIN (ISOCHRONOUS) 73°F



CREEP MODULUS-TIME 73°F



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 Film Extrusion, Profile Extrusion, Sheet Extrusion, Other Extrusion, Calendering, Transfer Molding, Thermoforming	Headquarters: Arkema France 420 rue d'Estienne d'Orves 92705 Colombes Cedex France T +33 (0)1 49 00 80 80 hpp.arkema.com Arkema Inc. – High Performance Polymers 900 First Avenue King of Prussia, PA 19406 Tel.: +1 610 205 7000 hpp.arkema.com
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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