+135-3858-6433 (GuangDong)
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ORGALLOY®
R60 ES NAT

Orgalloy® R 60 ES NAT resin is a polyamide alloy especially designed for blown film extrusion. This natural grade dedicated to extrusion offers good barrier properties and chemical resistance to solvents and alcohols while exhibiting a low surface tension (easy release).

PROPERTIES	DRY / COND	UNIT	TEST STANDARD
RHEOLOGICAL PROPERTIES			
Melt Volume-Flow Rate	2.5 / *	cm³/10min	ISO 1133
Temperature	235 / *	°C	-
	455 / *	°F	
Load	2.16 / *	kg	-
	4.76 / *	lb	
MECHANICAL PROPERTIES			
Tensile Modulus	- / 1950	MPa	ISO 527-1/-2
	- / 283000	psi	
Yield stress	- / 50	MPa	ISO 527-1/-2
	- / 7250	psi	
Yield strain	- / 3.4	%	ISO 527-1/-2
Nominal Strain at Break	- / >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	* / 870	MPa	ISO 899-1
	* / 126000	psi	
Charpy Impact Strength, +23°C	- / No Break	kJ/m²	ISO 179/1eU
Charpy Notched Impact Strength, +23°C	- / 9	kJ/m²	ISO 179/1eA
	- / 4.28	ftlb/in²	
Stress at Yield, parallel	35 / *	MPa	ISO 527-3
	5080 / *	psi	
Stress at Yield, normal	33 / *	MPa	ISO 527-3
	4790 / *	psi	
Strain at Yield, parallel	20 / *	%	ISO 527-3
Strain at Yield, normal	15 / *	%	ISO 527-3
Maximum Stress, parallel	80 / *	MPa	ISO 527-3
	11600 / *	psi	
Maximum Stress, normal	60 / *	MPa	ISO 527-3
	8700 / *	psi	

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Maximum Strain, parallel	530 / *	%	ISO 527-3
Maximum Strain, normal	530 / *	%	ISO 527-3
Elmendorf Tear Resistance, parallel	40 / *	N	ISO 6383-2
Elmendorf Tear Resistance, normal	35 / *	N	ISO 6383-2
THERMAL PROPERTIES			
Melting Temperature, 10°C/min	220 / *	°C	ISO 11357-1/-3
Temp. of Deflection Under Load, 1.80 MPa	75 / *	°C	ISO 75-1/-2
	167 / *	°F	
Temp. of Deflection Under Load, 0.45 MPa	130 / *	°C	ISO 75-1/-2
	266 / *	°F	
Vicat Softening Temperature, 50°C/h 50N	134 / *	°C	ISO 306
	273 / *	°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 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

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Humidity Absorption	1.3 / *	%	Sim. to ISO 62
Density	1030 / 1030	kg/m³	ISO 1183
	1.03 / 1.03	g/cm³	
FILM PROPERTIES			
Oxygen Transmission Rate, 23°C/0%r.h.	170 / *	cm³/(m²*d*bar)	ISO 15105-1/-2
Oxygen Transmission Rate, 23°C/85%r.h.	170 / *	cm³/(m²*d*bar)	ISO 15105-1/-2

MAIN APPLICATIONS:

- Technical film for Sheet Molding Compound (SMC)

PACKAGING:

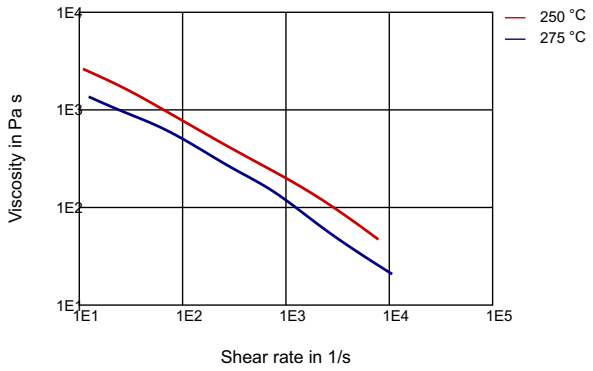
This grade is delivered dried in sealed packaging (800kg octabin) ready to be processed.

SHELF LIFE:

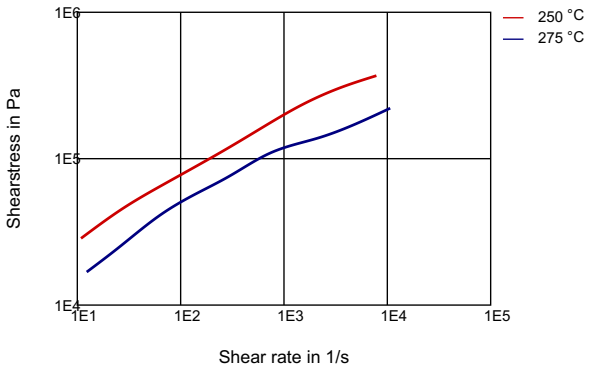
Two years from the date of delivery. For any use above this limit, please refer to our technical services.

DIAGRAMS

VISCOSITY-SHEAR RATE



SHEARSTRESS-SHEAR RATE



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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ORGALLOY®
R60 ES NAT

PROCESSING

Film 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

ARKEMA