

**Product Texts**

**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).

**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.

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melt volume-flow rate, MVR	2.5 / *	cm <sup>3</sup> /10min	ISO 1133
Temperature	235 / *	°C	-
Load	2.16 / *	kg	-

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Tensile Modulus	- / 1950	MPa	ISO 527
<sup>[C]</sup> Yield stress	- / 47	MPa	ISO 527
<sup>[C]</sup> Yield strain	- / 4.7	%	ISO 527
<sup>[C]</sup> Nominal strain at break	- / >50	%	ISO 527
<sup>[C]</sup> Tensile creep modulus, 1h	* / 2030	MPa	ISO 899-1
<sup>[C]</sup> Tensile creep modulus, 1000h	* / 870	MPa	ISO 899-1
<sup>[C]</sup> Charpy notched impact strength, +23°C	8 / 10	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Shore D hardness	74 / *	-	ISO 7619-1

[C]: CAMPUS

Thermal properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melting temperature, 10°C/min	220 / *	°C	ISO 11357-1/-3
<sup>[C]</sup> Temp. of deflection under load, 1.80 MPa	75 / *	°C	ISO 75-1/-2
<sup>[C]</sup> Temp. of deflection under load, 0.45 MPa	130 / *	°C	ISO 75-1/-2
<sup>[C]</sup> Vicat softening temperature, B	134 / *	°C	ISO 306
<sup>[C]</sup> Coeff. of linear therm. expansion, parallel	93 / *	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Coeff. of linear therm. expansion, normal	133 / *	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Burning Behav. at 1.5 mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	1.6 / *	mm	-
<sup>[C]</sup> Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	3.2 / *	mm	-

[C]: CAMPUS

Electrical properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Relative permittivity, 100Hz	- / 3	-	IEC 62631-2-1
<sup>[C]</sup> Relative permittivity, 1MHz	- / 3	-	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 100Hz	- / 620	E-4	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 1MHz	- / 250	E-4	IEC 62631-2-1
<sup>[C]</sup> Volume resistivity	- / >1E13	Ohm*m	IEC 62631-3-1
<sup>[C]</sup> Surface resistivity	* / >1E15	Ohm	IEC 62631-3-2
<sup>[C]</sup> Electric strength	38 / 38	kV/mm	IEC 60243-1
<sup>[C]</sup> Comparative tracking index	* / 600	-	IEC 60112

[C]: CAMPUS

Other properties	dry / cond	Unit	Test Standard
<sup>[C]</sup> Water absorption	6.1 / *	%	Sim. to ISO 62
<sup>[C]</sup> Humidity absorption	2 / *	%	Sim. to ISO 62
<sup>[C]</sup> Density	1030 / 1030	kg/m <sup>3</sup>	ISO 1183

[C]: CAMPUS

Film Properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Stress at yield, parallel	35 / *	MPa	ISO 527-3
<sup>[C]</sup> Stress at yield, normal	33 / *	MPa	ISO 527-3
<sup>[C]</sup> Strain at yield, parallel	20 / *	%	ISO 527-3
<sup>[C]</sup> Strain at yield, normal	15 / *	%	ISO 527-3
<sup>[C]</sup> Maximum stress, parallel	80 / *	MPa	ISO 527-3
<sup>[C]</sup> Maximum stress, normal	60 / *	MPa	ISO 527-3
<sup>[C]</sup> Maximum strain, parallel	530 / *	%	ISO 527-3
<sup>[C]</sup> Maximum strain, normal	530 / *	%	ISO 527-3
<sup>[C]</sup> Elmendorf Tear resistance, parallel	40 / *	N	ISO 6383-2
<sup>[C]</sup> Elmendorf Tear resistance, normal	35 / *	N	ISO 6383-2
<sup>[C]</sup> Oxygen transmission rate, 23°C/0%r.h.	170 / *	cm <sup>3</sup> /(m <sup>2</sup> *d*bar)	ISO 15105-1/-2
<sup>[C]</sup> Oxygen transmission rate, 23°C/85%r.h.	170 / *	cm <sup>3</sup> /(m <sup>2</sup> *d*bar)	ISO 15105-1/-2

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## Characteristics

### Processing

Film Extrusion, Other Extrusion

### Delivery form

Pellets, Natural Color

### Special Characteristics

Light stabilized or stable to light, Heat stabilized or stable to heat

### Regional Availability

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

## Other text information

### Film extrusion

#### 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