



PRODUCT INFORMATION

## NILENE E V0 LSZH

Polypropylene copolymer halogen free flame retardant UL94 V0, good flow and mechanical properties.

**ISO short** ISO 1043: PP FR(40)  
**Form** Pellets  
**UL file** E143048

### Key Features

- Suitable for injection moulding and extrusion applications
- Halogen free
- Flame retardant
- Low density
- Antimony trioxide free

### Availability

- YT: laser printable
- S: heat stabilized
- MT: long-term service stability for contact with copper
- L: UV stabilized
- D: detergent stabilized
- All colours

### Compliance

- UL94 V0 all colours approved at 1,6 mm.
- Halogen free according to EN 50642 - Thresholds: Cl<0,15% Br<0,15% F<0,3% I<0,3% and Cl + Br + F + I <0,4%

### Process

- INJECTION MOULDING
- EXTRUSION

### Application

- Power tools
- Household
- Electronic
- Electrical

Property	Method	Unit	Value	Condition	State
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### ELECTRICAL

Dielectric Strength	IEC 60243-1	kV/mm	25		
Tracking Resistance (CTI - Method A)	IEC 60112	Volt	600		
Tracking Resistance CTI	UL746 A (ASTM D3638)	PLC	0	UL approved	

### PHYSICAL

Density (+23°C)	ISO 1183	g/cm <sup>3</sup>	1,05		
Water Absorption (24h / +23°C)	ISO 62	%	0,1		

The listed data are in the normal range of product properties, they should not be used to establish specification nor as the basis of design. Values are valid for natural coloured version only.

Unless specified to the contrary, the given values have been established on standardized test specimens at room temperature. These values are for natural colour only. The figures should be regarded as guide values only and not as binding minimum values. Please note that, under certain conditions, the properties can be affected to a considerable extent by the design of the mold/die, the processing conditions, pigments and any other additives.

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Mould Shrinkage (Parallel)	Internal method	%	1,2	
Mould Shrinkage (Normal)	Internal method	%	1,2	
Melt Flow Rate (MFR)	ISO 1133	g/10 min	10	230°C - 2,16 kg

**MECHANICAL**

Tensile Yield Strength	ISO 527-1,2	MPa	21	Speed 50 mm/min
Elongation at Break	ISO 527-1,2	%	20	Speed 50 mm/min
Flexural Modulus	ISO 178	MPa	1750	Speed 1 mm/min
IZOD Notched Impact (+23°C)	ASTM D256	J/m	50	
IZOD Notched Impact (-25°C)	ASTM D256	J/m	25	

**THERMAL**

Softening Temperature - 1 kg (VST/A/50)	ISO 306	°C	154	50°C / h
Softening Temperature - 5 kg (VST/B/50)	ISO 306	°C	72	50°C / h
Deflection Temperature 1,80 MPa (HDT A)	ISO 75A	°C	60	120°C / h
Deflection Temperature 0,45 MPa (HDT B)	ISO 75B	°C	130	120°C / h
Ball Pressure Test	IEC 60695-10-2	°C	100	
Continuous service temperature (20.000 h)	UL746 B	°C	80	
Coefficient of linear thermal expansion (parallel)	ISO 11359-1,-2	K <sup>-1</sup>	7x10E(-5)	

**FLAMMABILITY**

Flame Behaviour (1,6 mm)	UL94	Class	V0	UL approved
Flame Behaviour (3,2 mm)	UL94	Class	V0	UL approved
Glow Wire Flammability Index-GWFI (1,6 mm)	IEC 60695-2-12	°C	960	
Glow Wire Ignition Temperature-GWIT (1,6 mm)	IEC 60695-2-13	°C	750	
Oxygen index	ASTM D2863	%	28	
HAI (1,6 mm)	UL746 A	PLC	0	UL approved
HAI (3,2 mm)	UL746 A	PLC	0	UL approved
HWI (1,6 mm)	UL746 A	PLC	1	UL approved
HWI (3,2 mm)	UL746 A	PLC	1	UL approved

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<b>EXTRUSION</b>	<b>Value</b>
Drying Temperature (Desiccant Dryer)	70 - 80°C
Drying Time (Desiccant Dryer)	2 - 4 hours
Suggested Max Moisture	0,2%
Suggested Max Re grind	< 15%
Melt Temperature	190 - 240°C
Feed Temperature	160°C
Rear Temperature	175°C
Middle Temperature	200°C
Front Temperature	210°C
Die Temperature	220°C
Screw Revolving Speed	< 450 mm/sec

**Notes** It is normally not necessary to dry NILENE compounds, however should there be surface moisture (condensate) on the moulding compound as a result of incorrect storage, drying process is required. NILENE must be stored indoors at a temperature below 40°C / 105°F avoiding humidity and direct sunlight as well. NILENE can be processed on a standard injection moulding unit. A general purpose metering screw is recommended with a zone distribution of 40% feed, 40% transition and 20% metering. When the heating cylinder is completely purged of NILENE material the machine may be shut down. The processing parameters like processing temperatures are a recommendation and can be adjusted in function of injection machine size or extruder, part geometry and design.

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Drying Temperature (Desiccant Dryer)	70 - 80°C
Drying Time (Desiccant Dryer)	2 - 4 hours
Suggested Max Moisture	0,2%
Suggested Max Regrind	< 10%
Melt Temperature	180 - 220°C
Feed Temperature	150°C
Rear Temperature	170°C
Middle Temperature	190°C
Front Temperature	200°C
Nozzle Temperature	210°C
Mould Temperature	30 - 70°C
Injection Rate	Slow to Medium
Injection Pressure	80 - 120 Mpa
Packing Pressure	60 - 100 Mpa
Back Pressure	5 - 10 Mpa
Screw Revolving Speed	< 300 mm/sec
Cushion	< 5 mm
Vent Depth	0,05 mm

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