

PROCESSING GUIDELINES INJECTION MOLDING

LURANYL[®] PPE/PS-I-Blends

ROMIRA

General

LURANYL[®] PPE/PS-I-blends can be generally processed using suitable techniques convenient for thermoplastic resins. In particular they can be easily moulded on usual injection moulding machines.

Due to the balanced processing properties and their excellent thermal stability, injection moulded parts with superb surface finish and gloss can be easily produced from all LURANYL[®] PPE/PS-I-blends. Basically all common types of gates can be used (VDI 2006).

Storage

LURANYL[®] PPE/PS-I-blends should be stored dry in closed rooms and protected from direct sunlight. If the packaging is stored on the outside, this can damage the physical and optical properties of LURANYL[®] PPE/PS-I-blends.

Drying

Under adverse transport and storage conditions all LURANYL[®] PPE/PS-I-blends can absorb moisture, which can lead to surface defects such as streaks or stripes. Before processing we strongly recommend to pre-dry LURANYL[®] PPE/PS-I-blends for 2 – 4 hours at a temperature of 90 °C (± 10 °C) in a dry air dryer. These dry the materials with high reliability even at high outside humidity.

We recommend to dry the material up to a moisture content < 0.05 %. Furthermore, heated containers should be attached to the injection molding machines in order to ensure that material remains dry on the machine for a longer period of time.

To exclude temperature-dependent color changes in case of bright colors it is recommended to limit the pre-drying time up to 2 h.

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Processing

The processing parameters should be selected with regard to the injection molding machine and the tool geometry. The parameters listed below serve to support the specified injection molding properties. Of particular attention should be paid to the melt temperature using hot runner tools.

LURANYL® PPE/PS-I-Blends	Standard	Flame retardant	Filled / Reinforced
Drying temperature	90 ± 10 °C	85 ± 5 °C	90 ± 10 °C
Drying time	2 – 4 h	2 – 4 h	2 – 4 h
Barrel temperature	260 – 300 °C	260 – 290 °C	270 – 310 °C
Tool temperature	60 – 100 °C	60 – 100 °C	60 – 100 °C
Maximum residence time	< 10 min	< 10 min	< 10 min
Injection speed	medium	medium	medium
Peripheral screw speed	0.2 m/s to max. 0.3 m/s	0.2 m/s to max. 0.3 m/s	0.2 m/s to max. 0.3 m/s
Injection pressure*	medium – high	medium – high	medium – high
Melt cushion	minimal	minimal	minimal

* The injection pressure should be selected depending on the injection speed.

The above mentioned processing parameters are only approximants and depend on the tool geometry and the machine used.

It should be considered that **flame retardant materials** are sensitive to shearing and temperature.

Recycling

Previous tests before recycling of rejected parts, gates etc. from LURANYL® PPE/PS-I-blends are recommended. It should be considered that the regrind is free of dust. Due to reprocessing conditions the small dust particles from grinding process can burn, thus can influence the mechanical and optical values and lead to "black specs".

For special requirements in the finished parts, only original material should be used.