

# PROCESSING GUIDELINES INJECTION MOLDING

## ROMILOY<sup>®</sup> ABS/PA-Blends

**ROMIRA**

### General

ROMILOY<sup>®</sup> ABS/PA is a blend comprises one amorphous (ABS) and one semi crystalline (PA) polymer and can be formed by all processes suitable for thermoplastic molding compounds. In particular they can be easily moulded on usual injection moulding machines. Also all common types of sprue can be used (VDI 2006). Ideally, the connection is made by means of a rod gate or a small film gate, where sharp edges and dead zones are to be avoided. When designing the mold, we recommend a balanced ratio of the interface to the part size and good mold ventilation. In the case of grained structures, it is advisable to avoid sharp points / rear edges.

### Storage

ROMILOY<sup>®</sup> ABS/PA-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 ROMILOY<sup>®</sup> ABS/PA-blends.

### Drying

ROMILOY<sup>®</sup> ABS/PA-blends leave the production facility with a residual moisture value of < 0.2 %. This value is checked with the aid of the moisture measuring device (Aquatrac). Before further processing, the material should be dried to a moisture content of < 0.05 %.

ROMILOY<sup>®</sup> ABS/PA-blends can absorb moisture under unfavorable transport and storage conditions, which can lead to surface defects such as streaks or stripes and hydrolytic degradation. Before processing we strongly recommend to pre-dry ROMILOY<sup>®</sup> ABS/PA-blends for 2 – 4 hours at a temperature of 80 °C ( $\pm 5$  °C) in a dry air dryer. These dry the materials with high reliability even at high outside humidity.

In the case of light colors, we recommend limiting the pre-drying time to approx. 2 hours in order to rule out the possibility of color changes.

### 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.

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**Important:** Impurities lead to surface defects, especially PC residues. We therefore recommend a previous cleaning of the cylinder with a neutral polymer such as PP or ABS. Polymers containing PC should be avoided.

ROMILOY® ABS/PA-Blends	Standard	Filled / Reinforced
Drying temperature	80 ± 5 °C	80 ± 5 °C
Drying time	2 – 4 h	2 - 4 h
Barrel temperature	230 – 245 °C	240 – 260 °C
Melt temperature	240 – 260 °C	260 – 270 °C
Hot runner temperature	240 °C	245 °C
Tool temperature	70 – 90 °C	70 – 90 °C
Residence time	4 – 10 min	4 – 10 min
Peripheral screw speed	0.2 m/sec to max. 0.3m/sec	0.2 m/sec to max. 0.3m/sec
Melt cushion	minimal	minimal
Injection pressure*	medium – high	medium – high
Back pressure	low	low

\*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.

### Recycling

Previous tests before recycling of rejected parts, gates etc. from ROMILOY® ABS/PA-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.**