

PROCESSING GUIDELINES INJECTION MOLDING

ROMILOY[®] ABS/PC and PC/ABS-Blends

ROMIRA

General

ROMILOY[®] ABS/PC- and PC/ABS-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 ROMILOY[®] ABS/PC- and PC/ABS-blends. Basically all common types of gates can be used (VDI 2006).

Storage

ROMILOY[®] ABS/PC- and PC/ABS-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[®] ABS/PC- and PC/ABS-blends.

Drying

ROMILOY[®] ABS/PC- and PC/ABS-blends leave the production facility with a residual moisture value of < 0.1 %. This value is controlled using the moisture measuring device (Aquatrac). We recommend to dry the material up to a moisture content < 0.05 %.

Under adverse transport and storage conditions all ROMILOY[®] ABS/PC- and PC/ABS-blends can absorb moisture so that surface defects such as streaks can appear. Before processing we strongly recommend to pre-dry ROMILOY[®] ABS/PC- and PC/ABS-blends for 2 – 4 hours at a temperature, given in the table below, 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.

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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.

ROMILOY® ABS/PC- and PC/ABS-Blends	Standard			Flame retardant (antistatic)	Filled / Reinforced
	1055	1035	1015		
Drying temperature	80 ± 5 °C	90 ± 10 °C	90 ± 10 °C	80 ± 5 °C	90 ± 10 °C
Drying time	2 – 4 h			2 - 4 h	2 - 4 h
Barrel temperature	240 – 270 °C			220 – 260 °C (230 – 250 °C)	250 – 270 °C
Tool temperature	70 – 100 °C			60 – 80 °C (60 – 70 °C)	60 – 80 °C
Injection speed*	medium			slow	slow
Melt temperature	< 260 °C	< 270 °C	< 270 °C	< 250 °C	< 280 °C
Peripheral screw speed	slow			slow	slow
Melt cushion	low			minimal	minimal
Back pressure	low			low	low
Holding pressure	Not higher then injection pressure			medium – low	Not higher then injection pressure

* 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.

Permanently antistatic ROMILOY® ABS/PC- and PC/ABS-Blends should be produced at max. 250°C.

Higher tool temperature leads to **lower gloss** on grained surfaces.

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Recycling

Previous tests before recycling of rejected parts, gates etc. from ROMILOY[®] ABS/PC- and PC/ABS-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.

Flame-retardant material can be used again only to a limited proportion of regrind. Therefore, previous trials are needed.