

General

ROTEC[®] AES can generally be processed using all 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 ROTEC AES grades. Basically all usual types of gates can be used (VDI 2006).

Storage

ROTEC[®] AES should be stored dry in closed rooms and protected from direct sun light. When stored on open areas, the package may be damaged thereby the physical and optical properties may be impaired.

Drying

ROTEC[®] AES leaves the production facility with a residual moisture content level of < 0.1 %. This value is controlled using the moisture analyzer (Aquatrac). We recommend to dry the material up to a moisture content < 0.05 %.

Under adverse transport and storage conditions all ROTEC[®] AES can absorb moisture so that surface defects such as streaks can appear. Before processing we strongly recommend to pre-dry ROTEC[®] AES for 2 – 4 hours at a temperature of 80 °C (± 5 °C) in a dry air dryer. These dry the materials with high reliability even at high outside humidity.

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

The above processing guidelines should advise without commitment. The statements given are based on our experience and are correct to the best of the knowledge at the time of printing, but the actual applications and processes are beyond our sphere of influence. No liability should be assumed as a result of this information.

Processing

The processing conditions should be selected depending on the injection moulding machine and the size or shape of the finished parts. The parameters listed below are used to support the established injection moulding properties. Of particular note is the melt temperature if using hot runner. Following conditions are recommended for processing:

| ROTEC® AES | Standard | Heat stabilized and/or reinforced | Flame retardant (antistatic) |
|------------------------|---------------|-----------------------------------|------------------------------|
| Drying temperature | 80 ± 5 °C | 80 ± 5 °C | 80 ± 5 °C |
| Drying time | 2 – 4 h | 2 – 4 h | 2 – 4 h |
| Barrel temperature | 210 – 250 °C | 230 – 260 °C | 200 – 230 °C |
| Tool temperature | 40 – 80 °C | 60 – 80 °C | 40 – 60 °C |
| Injection speed | high | high | high |
| Melt temperature | < 260 °C | < 270 °C | < 260 °C |
| Peripheral screw speed | medium – high | medium – high | medium – high |
| Melt cushion | keep low | keep low | keep low |
| Back pressure | low – medium | low – medium | low – medium |

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 ROTEK® AES 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 technical and optical values and lead to "black specs".

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

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