

AQUAFORCE®

PROCESSING GUIDELINES

AQUAFORCE®

GENERAL

AQUAFORCE® resins can be molded with usual types of molding machines. In principle the same processing conditions as for standard fibre glass reinforced nylon fit for **AQUAFORCE®**. Due to the high processing temperature and the abrasion of reinforced nylon, for barrel, screw and hot runner systems wear resistant steel must be specified. Heated, open nozzles are recommended for use in molding. For best molding and good part quality the actual shot size should be between 10 % and 70 % of the machine rated capacity and the screw design should be appropriate. A back-flow valve is necessary for molding.

MATERIAL STORAGE AND DRYING

AQUAFORCE® resins are supplied dry (less than 0.2 % moisture by weight) and are ready to mold directly from the moisture-proof shipping containers. We recommend dry storage areas. The required final water content for best molding and part quality is less than 0.1 %, therefore we recommend pre-drying in a hopper dryer working with dehumidified air (dew point below - 20 °C) or an oxygen-free environment (vacuum oven) at 80 to 90 °C for 4 to 8 hours. After drying hygroscopic materials like nylon have to be protected against atmospherical moisture.

RECOMMENDED MACHINE PARAMETERS | TOOL TEMPERATURE

Parameter	Range	Recommendation
melt temperature	280 °C to 310 °C	290 °C
dosing speed	10 to 20 m/min.	15 m/min.
back pressure	20 to 80 bar	40 bar
filling pressure	800 to 1500 bar	1200 bar
injection speed	high	high
mould temperature	80 °C to 140 °C	140 °C

The specified values are given as a guide only. The values actually required will be a function of the geometry and the desired quality of the injection moulded part, in particular.

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