

PROCESSING GUIDE

WIC PA6 is a semi crystalline thermoplastic, reinforced with carbon fibres.

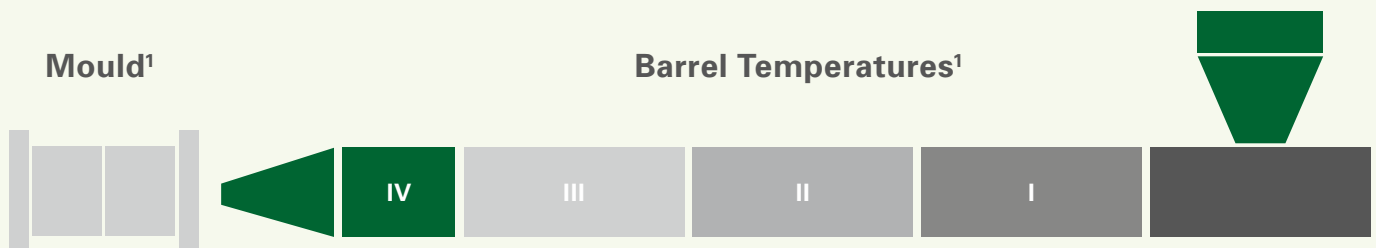
PRE-TREATMENT

Polyamide 6 is a hygroscopic polymer. Due to external conditions, such as climate or storage, humidity may be absorbed by the granules. Then, depending on humidity level, drying is recommended. Storage at ambient temperature before use will minimise condensation and humidity absorbance risk.

PROCESSING

WIC PA6 may be processed on all standard injection moulding machines. Wear protected plasticising units for carbon fibre reinforced compounds are advised.

In the suction conveying of carbon compounds, abrasion in the form of plastic particles, which include CF fibers, can occur. This abrasion / dust is electrically conductive due to the CF fibers. The conveying air should not escape unfiltered into the room. Special conveying air filters are to be used, which should be replaced once a week or according to susceptibility to soiling. If glass tube bends are used in the delivery piping, these are to be earthed.



PA6 reinforced

Temperatures in degrees Celsius (°C)

60 – 100

250 – 270

240 – 270

230 – 260

210 – 230

70 – 90

¹ Guide values. Standard starting profile might be in the middle.

		Unit	Notes
Properties			
Polymer abbreviation			PA6
Density (ISO 1183)	g/cm ³		1,17 – 1,33 (see Technical Data Sheet)
Injection Machinery			
Screw diameter		Metering stroke between 1 x D and 3 x D	
Screw type		Three zones screw with L/D ratio 18:1 to 22:1	
Nozzle type		Open or shut-off possible	
Hopper type		Standard	
Pre-processing			
Storage		Dry, protected from heat and light	
Dryer type		Dry air	
Drying temperature ²	°C	80	
Drying time ²	h	2 – 8	
Permissible moisture content		Max.	Optimum
	%	0,12	0,08
Processing Conditions			
Melt temperature range	°C	250 – 270	
Mould temperature range	°C	60 – 100	
Coolant		Water	
Throughput coolant		To ensure turbulent flow	
Peripheral screw speed	mm/s	< 300, e.g. screw speed of 40 rpm with a screw diameter of 50 mm	
Back pressure (specific)	bar	50 – 150	
Residence time in plasticizing	min	< 5	
Injection speed		Profile for constant flow front speed	
Shrinkage³			
		Lengthwise	Crosswise
Shrinkage range (ISO 294-4)	%	0,1 – 0,2 (in mold direction)	0,4 – 0,6 (perpendicular to mold direction)

² Depends on the initial moisture content.

³ Shrinkage is influenced by the part geometry, the wall thickness of the moulding, the position and size of the gate and the processing parameters.

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