

PROCESSING GUIDE

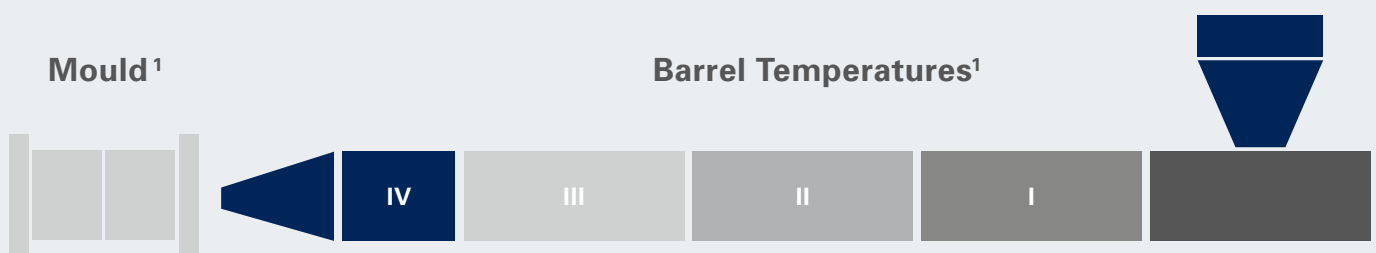
ALTECH[®] PA6 is a semi crystalline thermoplastic, unfilled, reinforced with glass fibre, glass beads or mineral.

PRE-TREATMENT

ALTECH[®] PA6 is a hygroscopic polymer. The compound is supplied dry and ready for processing. Due to external conditions, such as climate or storage, humidity may be absorbed by the granules. Then, depending on humidity level, pre-drying is recommended. Storage at ambient temperature before use will minimise condensation and humidity absorbance risk.

PROCESSING

ALTECH[®] PA6 may be processed on all standard injection moulding machines. Wear protected plasticising units for reinforced compounds are advised. High mould temperature might improve part quality. Higher injection speed helps to reduce glass fibre coming to the surface. Consult corresponding Technical Data Sheet for specific information.



Temperatures in degrees Celsius (°C)

PA6 unreinforced

40 – 80	250 – 280	260 – 275	250 – 260	250	60 – 80
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PA6 reinforced

80 – 100	270 – 290	280 – 290	270 – 280	270	70 – 80
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¹ Guide values. Standard starting profile might be in the middle.

Unit		Notes		
Properties				
Polymer abbreviation		PA6		
Density (ISO 1183)	g/cm ³	1.09 – 1.57 (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	°C	80		
Drying time ²	h	2 – 12		
Permissible moisture content		max.		optimum
	%	0.12		0.08
Processing Conditions				
		Unfilled	Glass fibre	Mineral filled
Melt temperature range	°C	250 – 270	270 – 290	270 – 290
Mould temperature range	°C	40 – 80	80 – 100	80 – 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	minutes	< 10		
Injection speed	Profile for constant flow front speed			
Shrinkage³				
		Unfilled	Glass fibre	Mineral filled
Shrinkage range (ISO 294-4)	%	0.5 – 2.0	0.2 – 1.2	0.5 – 1.2

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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