WIPAG
A MEMBER OF THE ALBIS GROUP

PROCESSING GUIDE

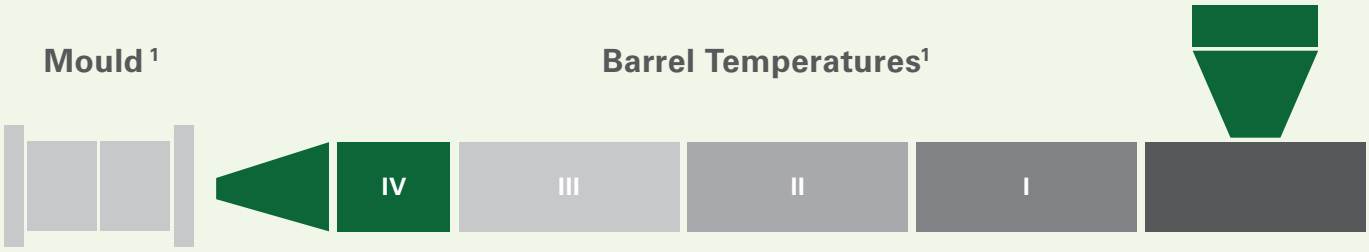
WIC PP is a semi crystalline thermoplastic, reinforced with carbon fibres.

PRE-TREATMENT

Polypropylene is a non-hygroscopic polymer. Original packed granules are protected against humidity and do not require special treatment. Due to external conditions, such as climate or storage, humidity may condense on the surface of the granules and then pre-drying is recommended. Storage at ambient temperature before use will minimise condensation risk.

PROCESSING

WIC PP 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.



Temperatures in degrees Celsius (°C)

20 – 50	210 – 260	210 – 240	200 – 230	170 – 190	30 – 50

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

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	Unit	Notes	
Properties			
Polymer abbreviation		PP	
Density (ISO 1183)	g/cm³	0,95 – 1,11 (see Technical Data Sheet)	
Injection Machinery			
Screw stroke	Metering stroke between 1 x D and 3 x D		
Screw type	Three zone 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		Air circulating	Dry air
Drying time[2]	h	2 – 4	2 – 3
Drying temperature[2]	°C	80	
Permissible moisture content	%	< 0,15	
Processing Conditions			
Melt temperature range	°C	210 – 260	
Mould temperature range	°C	20 – 50	
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	min	< 8	
Injection speed		Medium to fast (according to part size)	
Shrinkage[3]			
		Lengthwise	Crosswise
Shrinkage range (ISO 294-4)	%	0,1 – 0,5 (depending on fibre content)	0,1 – 0,4 (depending on fibre content)

[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.

HEAD OFFICE

WIPAG Deutschland GmbH
Nördliche Grünauer Straße 31
86633 Neuburg an der Donau
Tel.: +49 8431 4336-0
info@wipag.de · www.wipag.de

WIPAG_0919