TEDUR®

TEDUR® HTR

PROCESSING GUIDE

TEDUR® HTR is based on a linear Polyphenylene Sulphide resin (PPS) and is a semi crystalline, reinforced, high-performance thermoplastic.

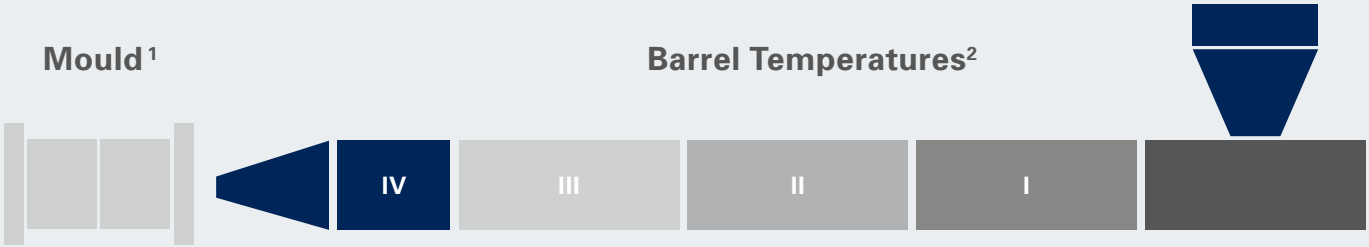
TEDUR® HTR has a significantly higher CTI value of 500 V (250 V is typical for standard PPS grades) and an increased thermal conductivity in the region of 1.0 W/mK. TEDUR® HTR PPS 2465 is a 65 % glass fibre/mineral filled PPS.

PRE-TREATMENT

TEDUR® HTR is a non-hygroscopic polymer. Due to external conditions, such as climate or storage, humidity may condense on the surface of the granules and therefore pre-drying is recommended. Storage at ambient temperature before use will minimise condensation risk.

PROCESSING

TEDUR® HTR may be processed on all standard injection molding machines. For the cylinder and the screw, it is recommended to use friction-resistant, anticorrosive coatings or linings. Due to higher thermal conductivity, increased gate/sprue diameter may be necessary.



Temperatures in degrees Celsius (°C)

Mould	IV	III	II	I
140 – 170	335 – 350	330 – 350	320 – 340	315 – 335

[1] Minimum 140 °C is essential to achieve full mechanical properties.

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

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	Unit	Notes
Properties		
Polymer abbreviation		PPS
Density (ISO 1183)	g/cm³	1.9
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	Shut-off nozzle recommended	
Hopper type	Standard (Heated recommended)	
Pre-processing		
Storage		Dry, protected from heat and light
Dryer type		Dry air
Drying time	h	2 – 4
Drying temperature	°C	130 – 140
Permissible moisture content	%	< 0.05
Processing Conditions		
Melt temperature range	°C	340 – 360
Mould temperature range	°C	140 – 170
Coolant		Oil or pressirised steam
Throughput coolant		To ensure turbulent flow
Peripheral screw speed	mm/s	50 – 300, e.g. screw speed of 40 rpm with a screw diameter of 50 mm
Back pressure (specific)	bar	50 – 150
Residence time	min	< 10
Injection speed		Slow to medium (according to part size)
Shrinkage (ISO 294-4)[3]		
Shrinkage (parallel)	%	0.2 – 0.4
Shrinkage (across)	%	0.1 – 0.3

[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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