

# Wanthane® WHT-1164IC

**TYPE** Polyester-based grade Extrusion and injection molding grade

**FEATURES** Excellent mechanical properties, high abrasion resistance, good wear resistance, short cycle times

**Applications** Shoe heels, Injection-molded engineering components, wire & cable, etc

Typical Properties*		Test Method	Units	Values
Specific Gravity		ASTM D 792	g/cm <sup>3</sup>	1.21
Shore Hardness		ASTM D 2240	Shore A	-
		ASTM D 2240	Shore D	64
Tensile Strength at 100% Elongation		ASTM D 412	MPa	26
Tensile Strength at 300% Elongation		ASTM D 412	MPa	40
Tensile Strength		ASTM D 412	MPa	45
Ultimate Elongation		ASTM D 412	%	340
Tear Strength		ASTM D 624	N/mm	225
DIN Abrasion		ISO 4649	mm <sup>3</sup>	45
Compression	22 h; 70 °C	ASTM D 395	%	68
	24 h; 23 °C	ASTM D 395	%	25
Tg by DSC		ASTM D 3418	°C	-9
Vicat Softening Temperature		ASTM D 1525	°C	120

\*All these physical properties are based on injection molded samples , which are conditioned at 23 °C / 50% for 24h.

Above values are typical values and should not be used as specifications.

### Disclaimer

The information provided here is for reference only. The specification will be provided in the quality certificate or in the contract. It is the user ' s responsibility to test the material and its suitability for a process. We have no control over what another party ' s action. Nor will we be responsible for any indirect damages while using our products. The user is welcome to contact our customer and technical service center with question on our products.

# Wanthane® 1164

## DRYING

Wanthane® materials are supplied pre-dried in moisture guarded bags. Dry Wanthane® will rapidly absorb moisture when exposed to atmosphere. For trouble free products, Wanthane® 1164 must be dried before processing. It is recommended to dry the material at 100-110 °C for 2-3 h in a circulating air or dehumidified air dryer. The moisture content must be lower than 0.03% before and during processing.

## PACKAGING

Wanthane® 1164 is packaged in the form of uncolored transparent pellets in PE-lined bags of 25 Kg net weight (1000 Kg/pallet).

## STORAGE

Wanthane® should be inspected to assure containers are not broken during transportation. Containers should be stored in a cool and dry environment, and should be brought to room temperature before opening in order to prevent condensation. Once being used, containers with residual materials should be sealed. It is necessary to cover the feed hopper of the processing machine.

## PROCESSING RECOMMENDATIONS

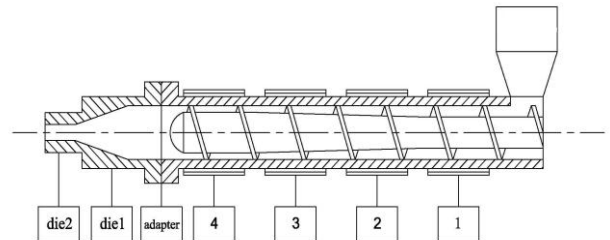
Based on our experience, the features of recommended screw are the following:

1. L/D ratio between 25 and 30.
2. The appropriate compression ratio is from 1:2 to 1:3.
3. The screw extruder should have three sections which have continued constant pitch. The distance between screw and barrel should be 0.1 to 0.2 mm. Depending on the size and type of the screw and die, the breaker plates used should have holes of 1.5 to 5 mm.
4. TPU is shear sensitive, for this reason, the extruder's

speed should be low in case of degradation during processing.

## TYPICAL PROCESSING CONDITIONS

Wanthane® 1164 can be both extruded and injection - molded. Typical processing conditions are listed in the following tables and figures. You can contact our [TECHNICAL SERVICE](#) for further inquiries about products or troubleshooting



Type: screw: 45mm, L/D: 30, compression ratio 3:1

	Zone1	Zone2	Zone3	Zone4	Adaptor	Die1	Die2
°C	185	190	195	200	205	200	195



	Zone1	Zone2	Zone3	Nozzle	Mold
°C	205	210	215	220	23

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## HEALTH AND SAFETY

Wanthane® materials have no hazardous reactions observed. Waste can be discarded to public garbage cans. When contacting or processing this product, it is recommended that all personnel wear eye/face protection and suitable protective clothing. Any further safety information about this product is available in our [TECHNICAL SERVICE](#) centre.

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