



TWINTEX® TP PP

Long Glass Fiber Concentrate / PP Pellets

PRODUCT DESCRIPTION

TWINTEX® Long Glass Fiber Concentrate / PP Pellets (TP PP) are obtained by pultrusion of TWINTEX® R PP rovings. They are coated with a plastic blend that protects them during transport and that can contain application-specific additives package as per the applications requirements the product has to fulfil.

MATERIAL COMPONENTS

Reinforcement	• E-glass fiber, PP compatible sizing, 75% in weight
Matrix	• PP Homopolymer MFI < 55 + Additives (UV, CA, HS), Carbon Black
Additive package	• Application specific formulation

PRODUCT REFERENCE

PRODUCTS AVAILABLE				LENGTH
TP 200	Black	Non-coupled	no LTHA	12.5 mm or 25 mm
TP 201	Black	Coupled	LTHA 150°C 1000h	
TP 202	Natural	Non-coupled	no LTHA	
TP 203	Black	Coupled	LTHA 150°C 500h	

Example: TWINTEX® TP PP 75 TP200 12.5
 TP: TWINTEX® Pellets
 PP: Compatible Matrix
 75: Glass content in weight %
 TP200: Additive Formulation
 12.5: Length (mm)

PRODUCT APPLICATION

TWINTEX® TP PP is mainly used to produce injected TP parts requiring structural performances like impact, or mechanical performances in Temperature exposition.

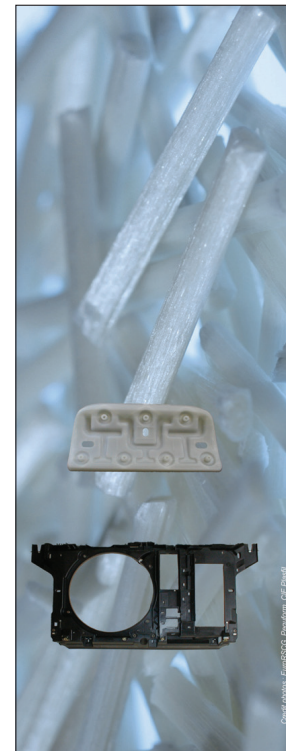
PROCESSING RECOMMENDATIONS

TWINTEX® must be blended with PP according to the following formula: TWINTEX® content in % = (required glass content in the part in %/75) x 100 PP content in % = 100 – TWINTEX® content.

The use of a gravimetric blender is absolutely essential to achieve good metering accuracy and part properties. The objective of using long fiber pellets is to improve the mechanical properties of molded parts, tooling and molding conditions should preserve the residual fiber length as much as possible.

It is recommended to use a gentle screw design without mixing element on the screw nozzle. Plastification process, screw speed, and back pressure should be kept as low as possible. Design of non return valve, nozzle, and sprue gate should be streamlined with a large cross section allowing a good flow.

TWINTEX® TP PP and dilution PP should be melted as fast as possible in the feeding section in order to avoid fiber damage during plastification.



EQUIPMENT AND PARAMETERS

DRYING	MAX 2 HOURS AT 80°C
Dosing unit	Gravimetric–fixed above the injection unit hopper
Screw diameter	> 40 mm
Compression ratio	# 2
L / D	18-22
Flight depth	> 4,5 mm
Screw speed	40-60 RPM
Barrel temperature	230-270°C
Injection speed	40-60 mm/s
Mold temperature	30-70°C
Back pressure	As low as possible
Non return valve	Smooth with large cross section
Injection nozzle	Ø > 5 mm, temperature controlled
Sprue gate	Ø > 8 mm diameter–Use of streamlined hot runners

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MECHANICAL PERFORMANCES

		12.5 MM			25 MM		
Glass Content:	ISO 3451-1	20%	30%	40%	20%	30%	40%
DENSITY	ISO 1183A	1.04	1.12	1.24	1.04	1.12	1.24
Specimens	Type	Inject. Bars	Inject. Bars	Inject. Bars	Inject. Bars	Inject. Bars	Inject. Bars
Flexural [MPa] Strength [23° C] Strength [80° C] Modulus [23° C] Modulus [80° C]	ISO 178	135 80 4500 2700	170 110 8000 6000	200 115 8000 6000	135 4500	180 6500	210 8000
Tensile [MPa] Strength [23° C] Strength [80° C] Modulus [23° C] Modulus [80° C]	ISO 527 Part 1/2	85 55 5000 3700	100 70 6500 4900	120 85 9000 7000	85 5000	100 6500	130 9000
Impact Un-notched Charpy Notched Charpy	ISO 179 eU ISO 180 1A	60 30	70 45	80 60	70 45	85 65	120 75
HDT HDT A [1.80 MPa] HDT B [8.00 MPa]	ISO 175 method A ISO 175 method B	155 114	157 138	160 143	156 114	158 139	161 143

Given data correspond to the best of our knowledge, but should not be used for design purposes, because actual values depend on chosen formulations and processing conditions. Injected Bars: Data are based on injection molded test bars, measured in the direction of flow. The dilution polypropylene was a natural homopolymer of MFI 37.

PACKAGING

- Big Bag 1100kg for TWINTEX® TP PP 75 12,5
- Big Bag 900 kg for TWINTEX® TP PP 75 25

STORAGE

TWINTEX® TP PP must be stored in its original packaging, away from humidity and at a moderate temperature. The best conditions are at a temperature between 15 and 35°C (60°F and 95°F) and at a 35 to 65% relative humidity level.

If the product is stored at a low temperature (below 15°C/60°F), it is advisable to condition it in the workshop, for at least 24 hours before use, to avoid condensation.

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