

# 常州联拓复合材料有限公司

## CHANGZHOU UTEK COMPOSITE CO., LTD.

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### DIRECT ROVING FOR FILAMENT WINDING, PULTRUSION, WEAVING

312 Direct Roving is coated with a silane-based sizing compatible with unsaturated polyester, Vinyl ester and epoxy resins and designed for filament winding, pultrusion and weaving applications. 312 is suitable for use in FRP pipes, pressure vessels, profiles and the woven fabrics converted from 312 are suitable for use in boats, wind blades, chemical tanks and geotechnical gratings.

#### Product Features

- ◎ Compatibility with a multiple of resin systems
- ◎ Complete and fast wet-out
- ◎ Good process performance and low fuzz
- ◎ Good mechanical properties of woven fabrics
- ◎ Excellent acid corrosion resistance

#### Identification :

Glass Type	E									
Type of Size	Silane									
Size Code	312									
Linear Density tex	136 257	300	100 200 400	1100 1200	1500	1700	2200	2400 4800	8820	9600
Filament Diameter μm	13	14	16	17	18	19	22	24	30	31



#### Technical Parameters

Linear Density (%)	Moisture Content (%)	Size Content (%)	Breakage Strength (N/Tex)
ISO 1889	ISO 3344	ISO 1887	ISO 3341
± 5	≤ 0.10	0.60± 0.15	≥0.40(≤4400tex) ≥0.30(> 4400tex)

#### Mechanical Properties

Mechanical Properties	Unit	Value	Resin	Method
Tensile Strength	MPa	2536	UP	ASTM D2343
Tensile Modulus	MPa	79132	UP	ASTM D234
Shear Strength	MPa	79132	UP	ASTM D234
Shear strength retention(72 hr boiling)	MPa	79132	UP	/

#### Storage

Unless otherwise specified, the fiberglass products should be stored in a dry, cool and moisture-proof area. The fiberglass products should remain in their original package until prior to use. The room temperature and humidity should be always maintained at -10°C~35°C and ≤80% respectively. To ensure safety and avoid damage to the product, the pallets should not be stacked more than three layers high. When the pallets are stacked in 2 or 3 layers, special care should be taken to correctly and smoothly move the top pallet.

#### Packaging

The product can be packed on pallet or in small cardboard boxes.

Package height mm (in)	260 (10.2)	260 (10.2)
Package inside diameter mm (in)	160 (6.3)	160 (6.3)
Package outside diameter mm (in)	275 (10.8)	310 (12.2)
Package weight kg (lb)	15.6 (34.4)	22 (48.5)

Number of layers	3	4	3	4
Number of doffs per layer	16		12	
Number of doffs per pallet	48	64	36	48
Net weight per pallet kg (lb)	750(1653)	1000(2205)	792 (1746)	1056 (2328)

Pallet length mm (in)	1120 (44.1)		1270 (50)	
Pallet width mm (in)	1140 (44.1)		960 (37.8)	
Pallet height mm (in)	940 (37)	1200 (47.2)	940 (37)	1200 (47.2)

