



成都英维玻璃纤维有限公司

CHENGDU YINGWEI FIBERGLASS CO., LTD

## DIRECT ROVINGS FOR FILAMENT WINDING

## SERIES

### FILAMENT WINDING PROCESS

#### I. TRADITIONAL FILAMENT WINDING

In the filament winding process, continuous strands of resin-impregnated glass fiber are wound under tension onto a mandrel in precise geometric patterns to build up the part which is then cured to form the finished parts.

#### II. CONTINUOUS FILAMENT WINDING

Multiple laminate layers, composed of resin, reinforcement glass and other materials are applied to a rotating mandrel, which is formed from a continuous steel band continuously traveling in a cork-screw motion. The composite part is heated and cured in place as the mandrel travels through the line and then cut into a specific length with a traveling cut-off saw.

### DIRECT ROVINGS FOR FILAMENT WINDING

Direct Roving for Filament Winding is specially designed for FRP filament winding process and compatible with UP, EP and VE resins. Its final composite product delivers excellent mechanical properties.

#### PRODUCT FEATURES

1. Fast wet-out, low fuzz and high strength.
2. High fiber strength, low fuzz, good acid and chemical resistance.
3. Compatible with epoxy resin, designed for filament winding under high tension, excellent bursting and fatigue properties of pipeline products.
4. Compatibility with epoxy resin, suitable for high tension winding and amine curing systems, excellent mechanical properties, corrosion resistance and fatigue properties of pipeline products.

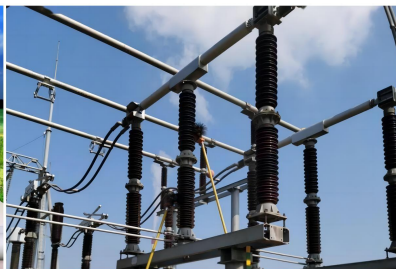
#### END-USE MARKETS

(Chemistry/Infrastructure/Shipping/Petrochemical/Construction)

### DIRECT ROVING FOR FILAMENT WINDING PICTURES



5. Compatibility with epoxy resin, suitable for acid anhydride curing system, very fast penetration speed, good winding processability, excellent mechanical properties, corrosion resistance and fatigue properties of pipeline products.
6. Excellent electrical property.
7. Good compatibility with resin, low fuzz, excellent performance and high mechanical strength.
8. Fast wet-out, ultra-low fuzz, excellent aging resistance, excellent performance and high.



## STANDARD PRODUCTS

Product ID	Nominal Tex g/km	Nominal pield yards/lb	Nominal Filament diameter μm (microns)
CDR150-100	100	2100	13
CDR150-200	200	1900	13
CDR150-275	275	1800	13
CDR150-300	300	1650	13
CDR150-400	400	1200	15
CDR150-550	550	900	17
CDR150-600	600	827	17
CDR150-735	735	675	13
CDR150-900	900	550	21
CDR150-1100	1100	450	17
CDR150-1200	1200	413	17
CDR150-1500	1500	330	20
CDR150-2000	2000	250	16
CDR150-2200	2200	225	23
CDR150-2400	2400	207	23
CDR150-4400	4400	113	24
CDR150-4800	4800	103	25
CDR150-8800	8800	56	30

## PRODUCT DATA

Type of Glass	E-glass formulation
Resin Compatibility	Polyester, vinyl ester and epoxy
Binder Type	Silane
Linear Density (Tex or Yield)	Nominal $\pm$ 5 %
Size Content (LOI % weight)	$0.55 \pm 0.10$
Moisture (%)	$\leq 0.10\%$
Breaking Strength(N/Tex)	$\geq 0.38$
Packaging	Plastic film wrapped cylindrical packs with top central opening.
Package Size	Cylindrical 10.5" – 12.0" DIA (26 cm-30 cm) X 10.25" (26cm) HEIGHT
Package(doff) Weight	40 lb. Each (nom) or 18 kg. (nom)
Pallet Configuration	4 Layers or 3 Layers of 16 Packages, Stretch Wrapped and Top Protected
Storage Recommendations	Stack pallets to a maximum two high.



## LAMINATE PROPERTIES

The following data was generated using production material. All laminate tests carried out using GY-6010 Epoxy resin.

Property	Unit	Standard Value
Impregnated Strand Tensile Strength	Mpa	> 1600 Mpa
Rod Bending Strength	Mpa	>650 Mpa
Wet-out Speed	Seconds	≤ 30 seconds
Fuzz	Gms/Doff	≤ 0.44 gms/doff

This data is offered solely as a guide for our customers and implied no liability on our part. The information contained in this data sheet is based on actual data supplied by an independent laboratory. We believe this information to be reliable, but do not guarantee its applicability to the user's process or assume any liability arising out of its use or performance. The user, by accepting these products, agrees to conduct its own testing and suitability for a particular use.

