



Solar Technologies

Packaging Instructions

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Ulbrich Solar Technologies, Inc.

(864)-647-6087

solar@ulbrich.com

www.pvribbon.com

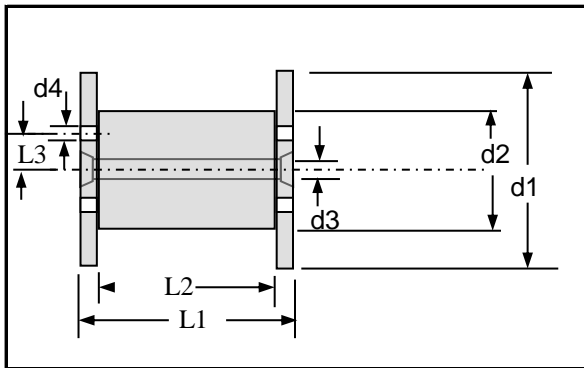
The following information describes packing and shipping options for Ulbrich Solar Technologies, Inc. PV Ribbon products.

1) Spool Types

The following types of spools are available:

Ulbrich Spool #	d1	d2	d3	d4	L1	L2	L3	Capacity
	mm	mm	mm	mm	mm	mm	mm	kgs
10S	152	102	16	10	122	102	19	4.5
20H*	160	100	*22	13	160	128	32	8
P5R	159	126	20	-	114	90	-	5
HKV160 (Biconical)	160	90	22	22	160	85.0	34.0	8

* 20H is available with 16mm bore adapters.



20H



10S



P5R

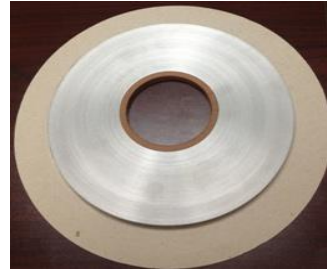


Biconical

2) **Pancake Types**

The following types of pancake material are available from UST-South Carolina only:

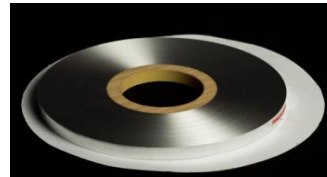
Designation: 9.5"
Material:
Coil Count per Box: 7
Box Size: 10" x 10"
Est. Net Weight:
40 LBS
18 KGS
Est. Gross Weight:
45 LBS
21 KGS



Designation: 14" Cardboard Reel
Material:
Coil Count per Box: 21 per for cardboard reel
Box Size: 14" x 14" x 12"
Est. Net Weight:
154 LBS
70 KGS
Est. Gross Weight:
245 LBS
115 KGS



Designation: 14" Pancake
Material:
Coil Count per Box: 25-30 per for pancake
Box Size: 14" x 14" x 12"
Est. Net Weight:
175 - 210 LBS
80-95 KGS
Est. Gross Weight:
182-217 LBS
82-98 KGS



NOTE: *the coil count on 14" pancake coils is based on material widths*

3) Packaging

Each spool is wrapped with a protective barrier to stabilize the wire package while blocking moisture and contaminants to prevent corrosion. Ulbrich Solar Technologies, Inc. offers the following protective options.



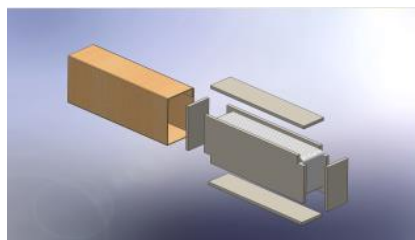
This Volatile Corrosion Inhibitor (VCI) Stretch Film blocks exposure to moisture and contaminants that may lead to corrosion and has the strength needed to keep the wire in place.



COPPERTEX® is a natural kraft paper which is coated on one side with a Daubert® VCI formulation designed to prevent copper from corroding. Spools are over-wrapped with stretch wrap.



Our Light-Capturing Ribbon™ (LCR) material is wrapped in Silver-Saver™ which is coated in a proprietary chemical formulation that prevents silver from tarnishing by absorbing hydrogen sulfide and other sulfurous gases. LCR is available from UST-SC and Ulbrich of Austria



Our Pre-Shaped L-Bus Bar is manufactured to customer specifications and will be packaged accordingly. L-Bus is available from UST-SC only.

4) Packaging Options

For finished goods Ulbrich Solar Technologies, Inc. offers the following packaging options:

4.1 45 - 10S Spools per Box

Dimensions (l x w x h): 32" x 24" x 28.5"H on a disposable wooden pallet

Est. Net Weight: 496 LBS
225 KGS

Est. Gross Weight: 550 LBS
250 KGS



4.2 36 20H/Bi-Conical Spools per Box

Dimensions (l x w x h): 33" x 24" x 28.5" H on a disposable wooden pallet

Est. Net Weight: 635 LBS
288 KGS

Est. Gross Weight: 690 LBS
313 KGS

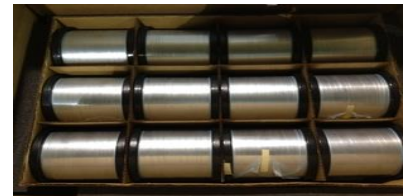


4.3 45 P5-R Spools per Box

Dimensions (l x w x h): 32" x 24" x 28.5"H on a disposable wooden pallet

Est. Net Weight: 496 LBS
225 KGS

Est. Gross Weight: 550 LBS
250 KGS

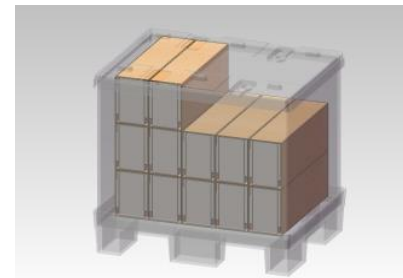


4.4 15 L-Bus Packages per Returnable Container

Dimensions (l x w x h): 19.5" x 5" x 7.28" H

Est. Net Weight: 11 LBS
5 KG

Est. Gross Weight: 11.6 LBS
5.25 KG



The packaging units are completely made of cardboard.* The cardboard boxes consist of a cover and depending on the type of one, two, four or six inlays.

If cardboard boxes do not get filled completely (due to order quantity or weight restriction), the remaining space will be filled with cardboard, empty spools, or foam blocks to avoid slipping of spools inside the box during transport.

*Ulbrich also offers Plastic Returnable Containers shown below

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5) Packaging Options

Cardboard boxes are placed centered on a pallet, to avoid hits or damages on the box during transport.

Cardboard boxes get taped and lashed with plastic bands. Gross and net weights are labeled on the box. A products description label is also placed for clear product identification.



Delivery note and delivery address are fixed on the top side of the cardboard box.



Shock Watch and Tilt stickers are applied to each box. The stickers contain unmistakable red indicators that confirm if the pallet was mishandled during transit.



Plastic Returnable Container

- * If a Shock Watch or Tilt sensor is triggered:
 - note the number of damaged pallets on the receiver and have the driver sign and date it
 - take a photo of the damaged pallet(s) if possible
 - immediately report any damage to Ulbrich and provide a copy of the receiver and photos

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6) **Returning Materials**

To return material to Ulbrich, please contact your Ulbrich Sales Representative to receive a Return Material Authorization (RMA) number for the claim and place material in the original box and packaging (cardboard, empty spools) to fill void spaces. If possible, please bubble wrap each spool that contains material. If a single spool, please use cardboard packaging and secured the contents with proper protection. Note the RMA on box, if possible, and provide this information within the package.

Please contact your Ulbrich Sales Representative to inquire about an option to Return Spools and all packaging materials upon completion.



Ulbrich Solar Technologies, SC

692 Plant Road
Westminster, SC 29693
(864) 647-0482
Email: Solar@ulbrich.com

Ulbrich Solar Technologies, OR

22975 NW Evergreen Pkwy Ste 404
Hillsboro, OR 97124
(503) 597-6880
Email: solar@ulbrich.com