



Solar Technologies

# Tabbing Ribbon XP

## Data Sheet

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### 1. Size:

Copper core dimension

Width: 1.3 - 2.0 mm +/- 0.08

Thickness:  $\geq 0.20$  mm +/- 0.008

### 2. Chemical Composition Base Material:

Material CDA 102 - ASTM B170  
CDA 110 - ASTM B5  
ETP1 - DIN EN 13602  
Cu-OF1 - DIN EN 13602

### 3. Mechanical Properties:

Measurement method: The pull force is measured on the finished copper wire after annealing. The pull force is then divided by the total nominal cross section of the copper core only.

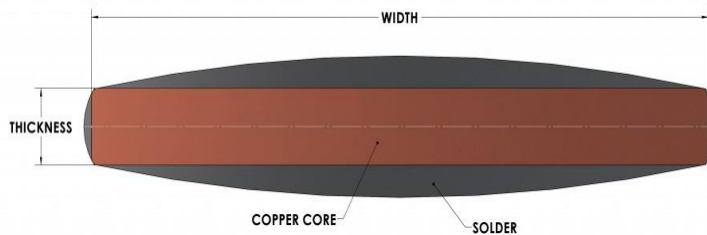
Testing is done in accordance with SEMI PV RIBBON STANDARDS PV018-0811 and PV019-0811

Tensile Strength: max 270 N/mm<sup>2</sup>

Yield Strength: max 70 N/mm<sup>2</sup>

Elongation: min 25%

\*According to Customer Specifications



### 4. Coating:

Solder Coated Copper Wire - All sides coated

Leaded Solder Alloys

Sn62Pb36Ag2

Sn60Pb40

Lead Free Solder Alloys

Sn100

Sn96.5Ag3.5

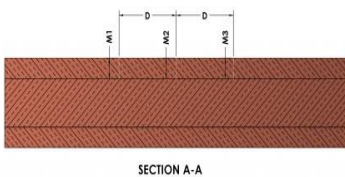
\*Other solder alloys are available on request

Solder Coating Thickness

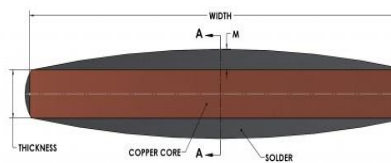
16-24  $\mu$ m PEAK

\*According to Customer Specifications

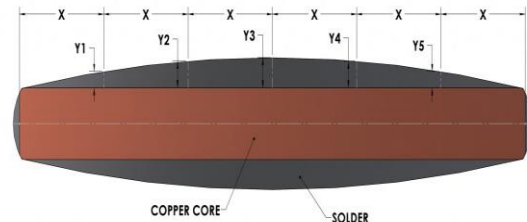
Peak



SECTION A-A



Average



### 5. Straightness:

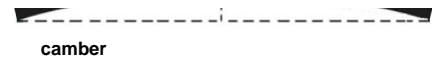
Measuring Method: Freely suspend ribbon sample weighted with 10g



All information provided above is based on our current standard knowledge and does not claim to be exhaustive. This information may not be passed on to third parties without approval by Ulbrich Solar Technologies, Inc.

Camber:

8mm max in 1m



## 6. Packing:

### Traverse Wound Spool Packaging Information

Spool:

10S

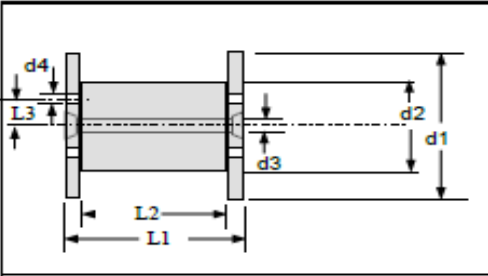
20H

P5R/JP5

PV300 - Only Available in UST-Austria

\*Other spools are available on request

### Spool Dimensions



Ulbrich Spool #	d1 mm	d2 mm	d3 mm	d4 mm	L1 mm	L2 mm	L3 mm	Capacity kgs
10S	152	102	16	10	122	102	19	4.5
20H	160	100	22	13	160	128	32	8.0
P5R/JP5	160	90	20	13	114	90	32	4.5
PV300*	300	215	22	13	132	100	32	18.0

\*Only Available in UST-Austria

Please contact [Solar@Ulbrich.com](mailto:Solar@Ulbrich.com) for further details and questions.