

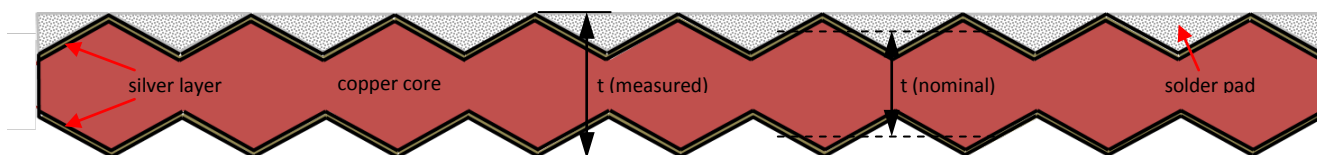
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LHS-Select Connector Strip

LHS-SELECT is a composite material of copper coated with electro deposited silver on both sides and selectively tinned to a defined pattern on both sides. The connector is structured on both sides.

composition of material:



Schematic cross-section of LHS-Strip (position of solder will change according to section of connector being viewed).

Grooving pattern	Groove spacing is 150 microns for functional sunny side. Grooving on shady-side can be adapted. It will not be tested reflectivity. Grooving patterns top and bottom are not positioned as depicted above, the relative position can vary.
copper core layer	97 % of nominal thickness; E-Cu58 acc. to DIN EN 1976; 99.9% Cu incl. Ag; depending on side
Silver layer	0,3 – 1,2µm Ag 99,99%
Solder layer	min.: depth of grooves; max.: 0,015 mm over ridge top lead free solders: SnAg3Cu0,5; SnAg3,5 lead containing solders: SnPb36Ag2, Sn60Pb40
Soldering pattern	Must be defined by drawing prior to production; example for pattern on page 2 minimal definitions: solder pad length, position on each side, relative position of top to bottom pattern
application	Interconnecting strings for solar cells / modules.

physical properties (design values only, will not be certified)	metric units					
	density depending on solder alloy	Solder	SnAg3Cu0,5	SnAg3,5	SnPb36Ag2	Sn60Pb40
		Density	8,517 g/cm ³	8,800 g/cm ³	8,940g/cm ³	8,907 g/cm ³
	electrical conductivity of copper core	100 % IACS				

reflection measurement	Our product is tested with a laser beam at 400-710 nm. Relative reflection rate is measured "recovery ratio (R)" Acceptance level: R > 75% This test procedure has been developed in house. A transfer of our test results to other materials is not
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	recommended.										
recommendations for processing	<ul style="list-style-type: none"> - Do not remove protective wrapping until use - Avoid contact with sulphur containing chemicals as they will darken the silver. - Profiled silver side is sensitive to scratches. Avoid scratches as they will reduce reflection rate. 										
manufacturing program of strip	<table border="1"> <tr> <td>nominal thickness [mm]</td> <td>0.1 – 0.2 mm Measured thickness deviates by +0.038 mm (for 150 micron grooving) from nominal thickness due to the embossed surface structure. Nominal thickness is obtained by assuming a rectangular cross section.</td> </tr> <tr> <td>width of strip [mm]</td> <td>1.0 – 5.0 mm</td> </tr> <tr> <td>thickness tolerance</td> <td>±10 % on total thickness</td> </tr> <tr> <td>width tolerance</td> <td>+/- 0.05 mm</td> </tr> <tr> <td>preferred spool types [mm]</td> <td>HKV 160; HKV 125</td> </tr> </table>	nominal thickness [mm]	0.1 – 0.2 mm Measured thickness deviates by +0.038 mm (for 150 micron grooving) from nominal thickness due to the embossed surface structure. Nominal thickness is obtained by assuming a rectangular cross section.	width of strip [mm]	1.0 – 5.0 mm	thickness tolerance	±10 % on total thickness	width tolerance	+/- 0.05 mm	preferred spool types [mm]	HKV 160; HKV 125
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recommendations for design	<ul style="list-style-type: none"> - Define pad lengths (sunny and shady side), pad lengths can vary from sunny to shady side, not within one side however. - Define transition area; will depend on cell spacing in module; cut area is optional, it can also be defined as 0 mm. - Typical tolerances for pad lengths will be +/- 0,1 mm; length of connector will be used for reference. Pattern should be monitored during stringing process. 										

Data in this publication is based on careful investigation and is intended for information only. All information shall be not binding, shall carry no warranty as to certain ingredients, as to the suitability for a special purpose, as to the merchantability or as to industrial property rights of third parties. Any and all users are obliged to carry out tests on their own authority as well as to check the suitability and the danger of the respective product for a particular application Schlenk shares no liability hereof and as to the exactness and completeness of the data. We apply our General Sales Conditions to be found on www.schlenk.com.

