LS VINA Cable & System

Electric DC Cables for photovoltaic systems

BS EN 50618

The World Best Cable Solution Leader

ISO 9001 5965 ISO 14001 Environmental Management OHSAS 18001 Occupational Health and Safety Management

SPEC NO. TDD-SL-01
REV1: JUNE-2020

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PHOTOVOLTAIC CABLES
BS EN 50618

Application
- Photovoltaic cables for use in Photovoltaic (PV) Systems, in particular for installation at the Direct Current (DC.) side. These cables are suitable for permanent outdoor use for many years under variable demanding climate conditions. Relatively stringent requirements are set for these products in line with the expected harsh usage conditions.

Standard
- BS EN 50618:2014; EN 60228

Construction
- **Conductor** : BS EN 60228, Class 5 flexible tinned copper
- **Insulation** : Halogen-free cross-linked compound, White colored.
- **Sheath** : Halogen-free cross-linked, flame retardant compound

Specification
- **Voltage ratting**
  DC : 1.5kV DV
  AC : 1.0/1.0kV AC

- **Temperature ratting**
  The cables are designed to operate at a normal maximum conductor temperature of 90°C, but for a maximum of 20 000 hours a max. conductor temperature of 120°C at a max. ambient temperature of 90°C is permitted.

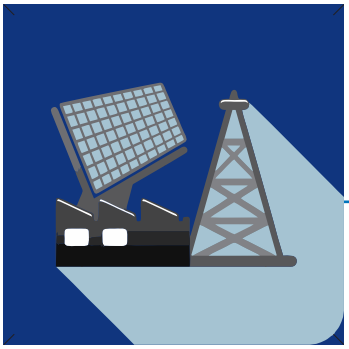
- **Minimum bending radius**
  OD: overall diameter of cable
  - Fixed : 4 OD
  - Flexed: 5OD

- **Test voltage**
  - DC voltage: 15kVdc / 5minutes
  - AC voltage: 6.5kVac / 5minutes

- **Cable marking**
  Printed on sheath surface with 550mm interval:
  “ EN 50618 H1Z2Z2-K (or H1Z2Z2-K/AT) 1x[Size] SQMM SOLAR XLPO - 1500V DC* (Mnf. Year) * LS-VINA Cable & System ”

- **Optional**
  - Sheath color: Black or Back with Red strip or as request.
  - Anti-termite additive in over sheath, Yes/ No?

- Request color .....
- Anti-termite
  - ☐ Yes **H1Z2Z2-K/AT**
  - ☐ No **H1Z2Z2-K**



PHOTOVOLTAIC CABLES
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FEATURES

- UV resistant
- Flame retardant to IEC 60332-1-2
- Halogen free accordance with BS EN 50525-1
- Low smoke density accordance with IEC 61034-2

TECHNICAL CHARACTERISTIC

Number and nominal cross sectional area of conductors	Thickness of insulation Specified value (1)	Thickness of sheath Specified value (2)	Mean overall diameter Upper limit Informative value	Maximum DC resistance of conductor at 20 C	Minimum insulation resistance		Approx. overall diameter of cable	Approx. overall weight of cable
					at 20°C	at 90°C		
mm^2	mm	mm	mm	Ω/km	MΩ.km	MΩ.km	mm	kg/km
2.5	0.7	0.8	5.9	8.21	690	0.69	5.7	50
4	0.7	0.8	6.6	5.09	580	0.58	6.2	70
6	0.7	0.8	7.4	3.39	500	0.50	6.8	90
10	0.7	0.8	8.8	1.95	420	0.42	7.7	130
16	0.7	0.9	10.1	1.24	340	0.34	9.5	205
25	0.9	1.0	12.5	0.795	340	0.34	11.4	305
35	0.9	1.1	14.0	0.565	290	0.29	12.8	405
50	1.0	1.2	16.3	0.393	270	0.27	14.9	565
70	1.1	1.2	18.7	0.277	250	0.25	17.2	800
95	1.1	1.3	20.8	0.210	220	0.22	18.9	1010
120	1.2	1.3	22.8	0.164	210	0.21	21.0	1290
150	1.4	1.4	25.5	0.132	210	0.21	23.3	1590
185	1.6	1.6	28.5	0.108	200	0.20	25.9	1930
240	1.7	1.7	32.1	0.082	200	0.20	29.3	2560

(1) : The smallest value measured shall not fall below 90 % of the specified value by more than 0.1 mm
(2) : The smallest value measured shall not fall below 85 % of the specified value by more than 0.1 mm

CABLES

Zertifikat *Certificate*

TÜVRheinland®

Zertifikat Nr. *Certificate No.*
R 50462719

Blatt *Sheet*
0001

Ihr Zeichen *Client Reference*	Unser Zeichen *Our Reference*	Ausstellungsdatum *Date of Issue*
C.T.T.	01-WSW-60356161 001	07.04.2020 *(day/mo/yr)*

Genehmigungsinhaber *License Holder*
LS-VINA CABLE & SYSTEM JOINT STOCK COMPANY
South of Binh Bridge Road,
So Dau Precinct,
Haiphong City,-Hong Bang District,
Vietnam

Fertigungsstätte *Manufacturing Plant*
LS-VINA CABLE & SYSTEM JOINT STOCK COMPANY
South of Binh Bridge Road,
So Dau Precinct,
Haiphong City,-Hong Bang District,
Vietnam

Prüfzeichen *Test Mark*
TÜVRheinland®
Type Approved
Safety
Regular Production
Surveillance
www.tuv.com
ID 1111221461

Geprüft nach *Tested acc. to*
EN 50618:2014

Zertifiziertes Produkt (Geräteidentifikation)
Certified Product (Product Identification)

Lizenzentgelte - Einheit
License Fee - Unit

Cable (Electric Cables for Photovoltaic Systems)

Type Designation	: H1Z2Z2-K 1X2,5...240mm² LS-VINA Cable & System Joint Stock Company.	18
Rated Voltage	: DC 1,5kV (conductor-conductor and conductor-earth) AC 1,0/1,0kV	
Ambient Temperature	: -40°C to +90°C	
Max.Temperature at Conductor	: 120°C	

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ANLAGE (Appendix): 1.0

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.
This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.

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Zertifizierungsstelle

TÜV Rheinland LGA Products GmbH TÜVRheinland Zertifizierungsstelle

Bo Liu