



Marine & Offshore

Certificate number: 54112/A0 BV

File number: ACE1/848/2

Product code: 25011

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Anhui Tiankang (Group) Shares Co., Ltd.

Tianchang - CHINA

for the type of product

CABLES (LOW VOLTAGE)

0.6/1kV

CE & CJ series

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

IEC 60092-350 (2014), IEC 60092-353 (2016), IEC 60092-360 (2014)

IEC 60228 (2004)

IEC 60331-1 (2009)

IEC 60332-1-2 (2015), IEC 60332-3-22 Cat.A (2008)

IEC 60684-2 (2011)

IEC 60754-1/2 (2011)

IEC 61034-1/2 (2013)

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 21 Mar 2024

For Bureau Veritas Marine & Offshore,

At BV SHANGHAI, on 21 Mar 2019,

Jennifer Zhang



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Low voltage cables for Marine application.

1.1 - Specifications:

Rated voltage	0.6/1kV
Temperature class	90°C
Flame retardant	IEC 60332-1-2, IEC 60332-3-22
Fire resistant	IEC 60331-1 (NA and NC types)
Halogen Free	IEC 60754-1/2 (SC and NC types)
Low Smoke	IEC 61034-2 (SC and NC types)
Fluorine content	IEC 60684-2 (SC and NC types)

1.2 - Construction:

Conductor	Tinned copper wire or copper wire, class 2
Fire resistant layer	Mica tape layer (NC type)
Insulation	EPR (E type) XLPE (J type)
Inner sheath	SE (F type) SHF1 (PF type) SHF2 (PJ type)
Armour	Tinned copper wire (8 Type) Zinc-coated steel wire (9 Type)
Outer sheath	No outer sheath (0 type) SHF1 (6 type) SHF2 (5 type)

1.3 - Product Range:

Type	Number of core	Cross-sect. (mm ²)
CJ 85 86 95 96 CJPJ 80 85 90 95 CJPF 80 86 90 96 /SC or /NC	1	1 to 240
	2	1 to 120
CEPF 80 86 90 96 CEPJ 80 85 90 95 /SC or /NC	3	1 to 185
CEF /SA or /NA	4 to 37	1 to 2.5

2. DOCUMENTS AND DRAWINGS :

"EPR Insulated Marine Power Cable" specification, dated Oct 2015

"EPR Insulated Marine Power Cable" data sheet Ref. 2018CDR-010, dated Feb 2018

"XLPE Insulated Marine Power Cable" data sheet Ref. 2018CDR-009, dated Feb 2018

"XLPE Insulated Marine Power Cable" specification, dated Feb 2018

3. TEST REPORTS :

TICW :

Test report N° CT16-3471-1/2/3/4, dated 18 Sep 2016

4. APPLICATION / LIMITATION :

According to BV Rules for the Classification of Steel Ships.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The INSTRUMENTATION AND COMMUNICATION CABLES are to be supplied by **Anhui Tiankang (Group) Shares Co., Ltd.** in compliance with the type and the requirements described in this certificate.

5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.

5.3 - BV product certificate is required.

5.4 - For information, **Anhui Tiankang (Group) Shares Co., Ltd.** has declared to Bureau Veritas the following production site:

Anhui Tiankang (Group) Shares Co., Ltd.
No. 20, Renhe Road (S),
Tianchang City,
Anhui Province
239300 Tianchang
CHINA

6. MARKING OF PRODUCT :

The cable shall be marked on the surface outer sheath, in a durable legible and visible manner, with the following information through the length of cable:

- 1) - Voltage grade.
- 2) - Cable symbol and temperature class.
- 3) - Number of conductors and conductor size.
- 4) - Applicable standard(s) to flame retardant and fire resistance if any
- 5) - Manufacturer's name or trade mark.
- 6) - Year of manufacture.

7. OTHERS :

It is **Anhui Tiankang (Group) Shares Co., Ltd.**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

*** END OF CERTIFICATE ***