DNV·GL

Certificate No:
TAE0000053

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Low Voltage Cable

with type designation(s)
CHJ82/DA/SA, CHJP82/DA/SA

Issued to
Zhongtian Technology Industrial Wire & Cable System Co.,Ltd.
Nantong, China

is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards
IEC 60092-376 (2003-05)
IEC 60332-3-22 (2009-02)

Application :

Instrumentation and control cable
SA type cable; flame retardant in bunch, cat. A

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Type	Voltage class (V)	Temp. class (°C)
CHJ82/DA/SA	150/250	90
CHJP82/DA/SA	150/250	90

This Certificate is valid until **2019-07-06**.

Issued at **Høvik** on **2015-07-07**

for **DNV GL**

DNV GL local station: **Shanghai**

Approval Engineer: **Georgy Abramenko**

Marit Laumann
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Job Id: **262.1-010228-2**
Certificate No: **TAE0000053**

Product description

Type: CHJ82/SA and CHJ82/DA 150/250 V

Conductor	Tinned copper class 2 or 5
Insulation	XLPE
Tape	Non-hygroscopic binder tape
Metal covering	Copper wire braid
Outer sheath	PVC

Type: CHJP82/SA and CHJP82/DA 150/250 V

Conductor	Tinned copper class 2 or 5
Insulation	XLPE
Individual screen	Tape or copper wire braid
Tape	Non-hygroscopic binder tape
Metal covering	Copper wire braid
Outer sheath	PVC

No. of cores x conductor cross section
mm2
CHJ82/SA CHJ82/SA
1 x 2 x 0,5
2 x 2 x 0,5
3 x 2 x 0,5
4 x 2 x 0,5
5 x 2 x 0,5
7 x 2 x 0,5
10 x 2 x 0,5
12 x 2 x 0,5
14 x 2 x 0,5
19 x 2 x 0,5
24 x 2 x 0,5
27 x 2 x 0,5

No. of cores x conductor cross section
mm2
30 x 2 x 0,5
1 x 2 x 0,75
2 x 2 x 0,75
3 x 2 x 0,75
4 x 2 x 0,75
5 x 2 x 0,75
7 x 2 x 0,75
10 x 2 x 0,75
12 x 2 x 0,75
14 x 2 x 0,75
19 x 2 x 0,75
24 x 2 x 0,75
27 x 2 x 0,75
30 x 2 x 0,75

No. of cores x conductor cross section
mm2
1 x 2 x 1
2 x 2 x 1
3 x 2 x 1
4 x 2 x 1
5 x 2 x 1
7 x 2 x 1
10 x 2 x 1
12 x 2 x 1
14 x 2 x 1
19 x 2 x 1
24 x 2 x 1
27 x 2 x 1
30 x 2 x 1
1 x 2 x 1,5

No. of cores x conductor cross section
mm2
2 x 2 x 1,5
3 x 2 x 1,5
4 x 2 x 1,5
5 x 2 x 1,5
7 x 2 x 1,5
10 x 2 x 1,5
12 x 2 x 1,5
14 x 2 x 1,5
19 x 2 x 1,5
24 x 2 x 1,5
27 x 2 x 1,5
30 x 2 x 1,5

No. of cores x conductor cross section
mm2
CHJP82/SA CHJP82/SA
1 x 2 x 0,5
2 x 2 x 0,5
3 x 2 x 0,5
4 x 2 x 0,5
5 x 2 x 0,5
7 x 2 x 0,5
10 x 2 x 0,5
12 x 2 x 0,5
14 x 2 x 0,5
19 x 2 x 0,5
24 x 2 x 0,5
27 x 2 x 0,5

No. of cores x conductor cross section
mm2
30 x 2 x 0,5
1 x 2 x 0,75
2 x 2 x 0,75
3 x 2 x 0,75
4 x 2 x 0,75
5 x 2 x 0,75
7 x 2 x 0,75
10 x 2 x 0,75
12 x 2 x 0,75
14 x 2 x 0,75
19 x 2 x 0,75
24 x 2 x 0,75
27 x 2 x 0,75
30 x 2 x 0,75

No. of cores x conductor cross section
mm2
1 x 2 x 1
2 x 2 x 1
3 x 2 x 1
4 x 2 x 1
5 x 2 x 1
7 x 2 x 1
10 x 2 x 1
12 x 2 x 1
14 x 2 x 1
19 x 2 x 1
24 x 2 x 1
27 x 2 x 1
30 x 2 x 1
1 x 2 x 1,5

No. of cores x conductor cross section
mm2
2 x 2 x 1,5
3 x 2 x 1,5
4 x 2 x 1,5
5 x 2 x 1,5
7 x 2 x 1,5
10 x 2 x 1,5
12 x 2 x 1,5
14 x 2 x 1,5
19 x 2 x 1,5
24 x 2 x 1,5
27 x 2 x 1,5
30 x 2 x 1,5

Application/Limitation

For SA type cables only;

The requirements of SOLAS Amendments Chapter II-1, Part D, Reg. 45, 5.2 (provision to be taken to limit Fire Propagation along Bunches of Cables or Wires) are fulfilled without any additional measures.

Type Approval documentation

Tests carried out

Standard	Release	General description	Limitation
IEC 60092-350	2008-02	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-376	2003-05	Cables for control and instrumentation circuits 150/250 V (300 V)	
IEC 60092-360	2014-04	Electrical installations in ships - Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.	
IEC 60332-3-22	2009-02	Tests on electric and optical fibre cables under fire conditions - Part 3-22: Test for vertical flame spread of vertically-mounted bunched wires or cables - Category A	For SA cables only. Bunch test Category A

Marking of product

Zhongtian technology industrial wire and cable systems – CHJ82/SA or CHJ82/DA or CHJP82/SA or CHJP82/DA – size – 150/ 250 V – IEC 60332-3-22

Periodical assessment

The scope of the retention/renewal survey is to verify that the conditions stipulated for the Type approval is complied with and that no alterations are made to the product design or choice of materials.

The main elements of the survey are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Survey shall be performed at least every second year.

END OF CERTIFICATE