DNV·GL

Certificate No:
TAE0000092

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Low Voltage Cable

with type designation(s)
CHJ86/SC 150/250V

Issued to
Jiangsu Shangshang Cable Group Co., Ltd
LIYANG JIANGSU, China

is found to comply with
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

Application :

Control & Instrumentation. Flame retardant in bunch, Cat. A. Halogen free. Low smoke

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

Voltage class (V) **150/250**
Temp. class (°C) **90**

This Certificate is valid until **2019-08-11**.

Issued at **Høvik** on **2015-08-12**

for **DNV GL**

DNV GL local station: **Nanjing**

Approval Engineer: **Børre Dan Knutsen**

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: **262.1-011039-3**
Certificate No: **TAE0000092**

Product description

Type: CHJ86/SC 150/250V

Construction:

Conductors:	Tinned stranded copper class 2
Core insulation:	XLPE
Inner covering:	Non-hygroscopic halogen-free filler
Metal covering:	Tinned copper wire braid
Outer sheath:	SHF1

No of Elements:	Cross sectional area [mm2]
1 2 4 7 10 14 19 24 30 37	0,5 0,75 1,0 1,5 2,5

Application/Limitation

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	2014-08	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
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 60092-376	2003-05	Cables for control and instrumentation circuits 150/250 V (300 V)	
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	Bunch test Category A
IEC 60754-1	2011-11	Test on gases evolved during combustion of materials from cables – Determination of the amount of halogen acid gas	Low Halogen: <0,5% Halogen
IEC 60754-2	2011-11	Test on gases evolved during combustion of materials from cables – Determination of the degree of acidity of gases evolved during the combustion of materials taken from electric cables by measuring pH and conductivity	Halogen free: pH > 4,3 Conductivity < 10µS
IEC 61034-1/2	2013-07/09	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke

Marking of product

JIANGSU SHANGHANG CABLE GROUP CO.,LTD – CHJ86/SC – size – 150/250V – IEC 60332-3-22 – Batch number.

Periodical assessment

The scope of the periodical assessment 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 periodical assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Check test reports from Production Sample Tests (PST) and Routine tests (RT)
- If test reports are not available, tests according to PST and RT shall 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.

Periodical assessment to be performed at least every second year.

END OF CERTIFICATE