

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Low Voltage Cable**

with type designation(s)

**CKJPF80/NSC, CKJPF90/NSC, CKJFP80/NSC, CKJFP90/NSC, CKJPJ80/NSC, CKJPJ90/NSC,
CKJPJP80/NSC, CKJPJP90/NSC, CHJPF80/NSC, CHJPF90/NSC, CHJFP80/NSC,
CHJFP90/NSC, CHJPJ80/NSC, CHJPJ90/NSC, CHJPJP80/NSC, CHJPJP90/NSC**

Issued to

**Jiangsu Jiangyang Special Cable Co., Ltd.
Yangzhou, China**

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed
by DNV GL.****Rated voltage (V) 150/250****Temp. class (°C) 90**Issued at **Hamburg** on **2017-08-01**This Certificate is valid until **2022-07-31**.for **DNV GL**DNV GL local station: **Nanjing**Approval Engineer: **Holger Jansen****Joannis Papanuskas
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.



Job Id: **262.1-014494-2**
Certificate No: **TAE0000222**

Product description

Conductor: Plain stranded copper class 2
Insulation: XLPE + mica tape
Inner sheath: PF – SHF1
PJ – SHF2
Individual screen: P – Tinned copper wire braid
Armor: 8 – Tinned copper wire braid
9 – Galvanized steel wire braid
Outer sheath: 0 - Without

Type: CKJPF80/NSC & CKJPF90/NSC & CKJFPF80/NSC & CKJFPF90/NSC & CKJPJ80/NSC & CKJPJ90/NSC & CKJPJP80/NSC & CKJPJP90/NSC

Number of Cores: 2-37
Cross-sectional area: 0,75mm² – 2,5mm²

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Number of Cores: 1x3; 1x4; 1x2 to 37x2
Cross-sectional area: 0,5mm² – 1,5mm²
1x3; 1x4; 1x2 to 10x2 1,5mm²
1x3; 1x4; 1x2 to 3x2 2,5mm²

Application/Limitation

This type of cable is fire resistant in accordance with IEC 60331.

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.

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

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 60092-376	2017-05	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.	

Standard	Release	General description	Limitation
IEC 60332-1-2	2015-07	Tests on electric and optical fibre cables under fire conditions – Part 1-2: Test for vertical flame propagation for a single insulated wire or cable – Procedure for 1 kW pre-mixed flame	
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	
IEC 60331-1/2	2009-05	Fire resistance / Circuit integrity – Test for method for fire <i>with shock</i> at temperature of at least 830°C for cables rated up to and including 0,6/1 kV	
IEC 60331-21	1999-04	Test for electric cables under fire conditions – Circuit integrity – Part 21: Productures and requirements – Cables of rated voltage up to and including 0,6/1,0 kV	
IEC 60754-1	2011-11	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content	
IEC 60754-2	2011-11	Test on gases evolved during combustion of materials from cables - Part 2: Determination of acidity (by pH measurement) and conductivity	
IEC 61034-1/2	2013-06	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	

Marking of product

Jiangsu Jiangyang Special Cable Co., Ltd – CKJPF80/NSC or CKJPF90/NSC or CKJFPF80/NSC or CKJFPF90/NSC or CKJPJ80/NSC or CKJPJ90/NSC or CKJPJP80/NSC or CKJPJP90/NSC – 150/250 V – size – IEC60331-21 – IEC 60332-3-22

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Periodical assessment

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

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)

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- Results from Routine Tests (RT) checked (if not available tests according to 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.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE