



Certificate No:
TAE00004R5

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electric Power Cable

with type designation(s)

CJPJ(R)85/SC (BP) 0,6/1 kV, CJPJ(R)85/SC (BP) 1,8/3 kV

Issued to

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

is found to comply with

DNV 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.

Type	Rated voltage (kV)	Temp. class (°C)
CJPJ(R)85/SC (BP) 0,6/1 kV	0,6/1	90
CJPJ(R)85/SC (BP) 1,8/3 kV	1,8/3	90

Issued at **Høvik** on **2023-05-31**

This Certificate is valid until **2028-05-30**.

for **DNV**

DNV local unit: **Nanjing NB & CMC**

Approval Engineer: **Carsten Hunsalz**

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Frederik Tore Elter
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2022-12

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Product description

Type: CJPJ(R)85/SC (BP) 0,6/1 kV
CJPJ(R)85/SC (BP) 1,8/3 kV

Conductors: Tinned copper class 2 or class 5 (R-types)
Insulation: XLPE
Inner sheath: PJ – SHF2
Armor: 8 – Tinned copper wire braid
Outer sheath: 5 – SHF2

CJPJ85/SC (BP) 0,6/1 kV

Number of cores x conductor cross-section	Overall diameter nom.
mm ²	mm
1x1	8,0
1x1,5	8,5
1x2,5	9,0
1x4	10,0
1x6	10,5
1x10	12,5
1x16	14,0
1x25	15,0
1x35	16,0
1x50	18,5
1x70	21,0
1x95	24,0
1x120	27,0
1x150	29,5
1x185	32,5
1x240	37,5
1x300	41,0

Number of cores x conductor cross-section	Overall diameter nom.
mm ²	mm
3x2,5	13,0
3x4	15,0
3x6	16,0
3x10	19,0
3x16	21,0
3x25	25,5
3x35	28,5
3x50	33,0
3x70	38,0
3x95	42,5
3x120	48,5
3x150	53,0
3x185	59,0
3x240	65,5

CJPJR85/SC (BP) 0,6/1 kV

Number of cores x conductor cross-section	Overall diameter nom.
mm ²	mm
1x1	8,0
1x1,5	8,5
1x2,5	9,0
1x4	10,0
1x6	10,5
1x10	13,0
1x16	14,5
1x25	15,5
1x35	16,5
1x50	19,5
1x70	22,0
1x95	25,0
1x120	28,5
1x150	31,0
1x185	34,0
1x240	37,5
1x300	43,5

Number of cores x conductor cross-section	Overall diameter nom.
mm ²	mm
3x2,5	13,0
3x4	15,0
3x6	16,5
3x10	19,5
3x16	22,0
3x25	27,0
3x35	30,0
3x50	35,5
3x70	40,0
3x95	44,5
3x120	51,5
3x150	56,0
3x185	62,5
3x240	69,0

CJPJ85/SC (BP) 1,8/3 kV

Number of cores x conductor cross-section	Overall diameter nom.
mm ²	mm
1x16	16,0
1x25	17,0
1x35	18,5
1x50	20,0
1x70	22,5
1x95	25,0
1x120	29,0
1x150	30,5
1x185	34,0
1x240	37,5
1x300	41,0

Number of cores x conductor cross-section	Overall diameter nom.
mm ²	mm
3x16	28,0
3x25	31,0
3x35	34,0
3x50	37,5
3x70	42,5
3x95	47,5
3x120	52,0
3x150	56,5
3x185	60,5
3x240	67,5

CJPJR85/SC (BP) 1,8/3 kV

Number of cores x conductor cross-section	Overall diameter nom.
mm ²	mm
1x16	16,5
1x25	17,5
1x35	19,0
1x50	21,0
1x70	23,5
1x95	26,0
1x120	30,5
1x150	32,0
1x185	35,0
1x240	39,0
1x300	43,5

Number of cores x conductor cross-section	Overall diameter nom.
mm ²	mm
3x16	29,0
3x25	32,5
3x35	35,5
3x50	40,0
3x70	44,5
3x95	50,0
3x120	55,0
3x150	60,0
3x185	63,0
3x240	71,0

CJPJ85/SC (BP) 0,6/1 kV

Number of cores x conductor cross-section	Overall diameter nom.
mm ²	mm
3x2,5+3x1	16,0
3x4+3x1,5	17,0
3x6+3x2,5	19,0
3x10+3x4	22,0
3x16+3x6	24,0
3x25+3x6	27,0
3x35+3x6	28,0
3x50+3x10	33,0
3x70+3x16	38,0
3x95+3x16	42,0
3x120+3x25	47,0
3x150+3x25	51,0
3x185+3x35	56,0
3x240+3x50	63,0

CJPJR85/SC (BP) 0,6/1 kV

Number of cores x conductor cross-section	Overall diameter nom.
mm ²	mm
3x2,5+3x1	16,0
3x4+3x1,5	17,0
3x6+3x2,5	19,0
3x10+3x4	22,5
3x16+3x6	25,0
3x25+3x6	28,0
3x35+3x6	30,0
3x50+3x10	35,5
3x70+3x16	41,0
3x95+3x16	45,0
3x120+3x25	50,5
3x150+3x25	55,0
3x185+3x35	60,0
3x240+3x50	67,5

CJPJ85/SC (BP) 1,8/3 kV

Number of cores x conductor cross-section	Overall diameter nom.
mm ²	mm
3×16+3×6	27,0
3×25+3×6	30,0
3×35+3×6	33,0
3×50+3×10	36,0
3×70+3×16	42,0
3×95+3×16	46,0
3×120+3×25	50,0
3×150+3×25	54,0
3×185+3×35	58,0
3×240+3×50	64,0

CJPJR85/SC (BP) 1,8/3 kV

Number of cores x conductor cross-section	Overall diameter nom.
mm ²	mm
3×16+3×6	38,0
3×25+3×6	32,0
3×35+3×6	35,0
3×50+3×10	39,5
3×70+3×16	45,0
3×95+3×16	50,0
3×120+3×25	54,0
3×150+3×25	58,0
3×185+3×35	62,0
3×240+3×50	69,0

Application/Limitation

General power and lighting. Control.

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

Flame retardant Cat. A. Halogen free. Low smoke.

Type Approval documentation

Tests carried out

Standard	Release	General description	Limitation
IEC 60092-350	2020-01	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-353	2016-09	Electrical installations in ships – Part 353: Power cables for rated voltages 1 kV and 3 kV	
IEC 60092-360	2021-01	Electrical installations in ships – Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables.	
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	2018-07	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	Charred portion of sample does not exceed 2,5m above bottom edge of burner.
IEC 60754-1	2019-11	Test on gases evolved during combustion of materials from cables – Part 1: Determination of the halogen acid gas content	Low Halogen: <0,5% Halogen
IEC 60754-2	2019-11	Test on gases evolved during combustion of materials from cables – Part 2: Determination of acidity (by pH measurement) and conductivity	Halogen free: pH > 4,3 Conductivity < 10µS/mm

Standard	Release	General description	Limitation
IEC 60684-2	2011-08	Clause 45.2 Methods of determination of low levels of fluorine	Fluorine content < 0,1%
IEC 61034-1/2	2019-11	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	Low smoke Light transmittance >60%
NEK TS 606	2022	Cables for offshore installations. Halogen-free and/or mud resistant. Technical specification.	SHF2 Category b - Enhanced oil resistance (Sheath Code E) IRM902+IRM903 100°C 7d. Calcium Bromide 70°C 56d.

Marking of product

Example:

Jiangsu Shangshang Cable Group Co., Ltd. - CJPJ85/SC (BP) 0,6/1 kV-size-IEC 60332-3-22 - Lot no.

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)
- 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