Certificate no.:
TAE0000535

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Electric Power Cable

with type designation(s)
CJPJ/SC, CJPF/SC

issued to
Guangzhou OUSSEA Photoelectric Transmission Technology Inc., Ltd.
Guangzhou, Guangdong Province, 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.

Rated voltage (kV)	**0,6/1**
Temp. class (°C)	**90**

Issued at **Hamburg** on **2025-10-09**
This Certificate is valid until **2030-10-08**.
DNV local unit: **China South NB**

for **DNV**

Approval Engineer: **Carsten Hunsalz**

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 USD 300 000.

Job ID: **262.1-042245-1**
Certificate no.: **TAE0000535**

Product description

Type: CJPJ/SC, CJPF/CC

Conductor: Tinned, stranded copper class 2 or class 5
Insulation: XLPE
Outer sheath: PF - (SHF1) or PJ - (SHF2)

CJPJ/SC, CJPF/SC 0,6/1kV

Number of cores x conductor cross-section	Overall diameter nom.
mm^2	mm
1x1	5,0
1x1,5	5,2
1x2,5	5,7
1x4	6,2
1x6	6,8
1x10	7,7
1x16	9,0
1x25	10,7
1x35	12,1
1x50	13,6
1x70	15,8
1x95	17,9
1x120	19,9
1x150	21,8
1x185	24,3
1x240	27,5
1x300	30,3
2x1	7,6
2x1,5	8,2
2x2,5	9,3
2x4	10,4
2x6	11,7
2x10	13,6
2x16	15,9
2x25	19,7
2x35	22,4
2x50	25,5
2x70	29,7
2x95	33,9
2x120	37,7
2x150	42,0
2x185	46,9
3(2+E)x1	8,1
3(2+E)x1,5	8,9
3(2+E)x2,5	9,9
3(2+E)x4	11,0
3(2+E)x6	12,4
3(2+E)x10	14,6
3(2+E)x16	17,1

Number of cores x conductor cross-section	Overall diameter nom.
mm^2	mm
3(2+E)x25	21,0
3(2+E)x35	23,9
3(2+E)x50	27,2
3(2+E)x70	31,9
3(2+E)x95	36,4
3(2+E)x120	40,5
3(2+E)x150	45,1
3(2+E)x185	50,5
3(2+E)x240	56,9
4(3+E)x1	9,0
4(3+E)x1,5	9,6
4(3+E)x2,5	10,8
4(3+E)x4	12,2
4(3+E)x6	13,6
4(3+E)x10	16,1
4(3+E)x16	18,8
4(3+E)x25	23,4
4(3+E)x35	26,5
4(3+E)x50	30,4
4(3+E)x70	35,7
4(3+E)x95	40,5
4(3+E)x120	45,3
4(3+E)x150	50,4
4(3+E)x185	56,3
5(4+E)x1	9,7
5(4+E)x1,5	10,5
5(4+E)x2,5	12,0
5(4+E)x4	13,3
5(4+E)x6	15,1
5(4+E)x10	17,8
5(4+E)x16	20,8
5(4+E)x25	25,9
5(4+E)x35	29,4
5(4+E)x50	33,7
5(4+E)x70	39,5
5(4+E)x95	45,0
5(4+E)x120	50,3
5(4+E)x150	56,0
5(4+E)x185	62,7

Number of cores x conductor cross-section	Overall diameter nom.
mm^2	mm
6x1	10,0
7x1	10,5
10x1	13,4
12x1	14,1
14x1	14,7
16x1	15,5
19x1	16,3
24x1	19,4
27x1	19,8
30x1	20,5
33x1	21,3
37x1	22,3
6x1,5	10,8
7x1,5	11,5
10x1,5	14,7
12x1,5	15,2
14x1,5	15,9
16x1,5	17,0
19x1,5	17,9
24x1,5	21,0
27x1,5	21,5
30x1,5	22,4
33x1,5	23,3
37x1,5	24,2
6x2,5	12,3
7x2,5	13,0
10x2,5	16,8
12x2,5	17,4
14x2,5	18,2
16x2,5	19,4
19x2,5	20,5
24x2,5	24,1
27x2,5	24,8
30x2,5	25,7
33x2,5	26,7
37x2,5	27,9

Number of cores x conductor cross-section	Overall diameter nom.
mm^2	mm
6x4	13,7
7x4	14,7
10x4	18,9
12x4	19,7
14x4	20,7
16x4	21,8
19x4	23,2
24x4	27,6
27x4	28,2
30x4	29,2
33x4	30,5
37x4	31,7

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 Bunches 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
DNV-CP-0399	2021-08	Class Programme Electric cables	
IEC 60092-350	2020-01	General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications	
IEC 60092-353	2024-06	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 eletric cables under fire conditions. Test for vertical flame propagation for a single insulated wire or cable.	
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
IEC 60684-2	2011-08	Clause 45.2 Methods of determination of low levels of fluorine	HF max 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%

Marking of product

Example:

Guangzhou OUSSEA Photoelectric Transmission Technology Inc., Ltd. - CJPJ/SC – 0,6/1kV - 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