Certificate no.:
TAE0000539

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Electric Power Cable

with type designation(s)
CEPJ/SC, CEPF/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.

Product description

Type: CEPJ/SC, CEPF/SC

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

CEPJ/SC, CEPF/SC 0,6/1kV

Number of cores x conductor cross-section	Overall diameter nom.
mm^2	mm
1x1	5,6
1x1,5	5,8
1x2,5	6,3
1x4	6,8
1x6	7,4
1x10	8,3
1x16	9,6
1x25	11,5
1x35	12,7
1x50	14,6
1x70	16,4
1x95	18,9
1x120	20,7
1x150	22,8
1x185	25,3
1x240	28,5
1x300	31,5
2x1	9,0
2x1,5	9,6
2x2,5	10,5
2x4	11,8
2x6	12,9
2x10	15,0
2x16	17,3
2x25	20,9
2x35	23,6
2x50	27,1
2x70	31,1
2x95	36,1
2x120	39,5
2x150	43,8
2x185	48,5
3(2+E)x1	9,6
3(2+E)x1,5	10,2
3(2+E)x2,5	11,4
3(2+E)x4	12,5
3(2+E)x6	13,7
3(2+E)x10	15,9
3(2+E)x16	18,4

Number of cores x conductor cross-section	Overall diameter nom.
mm^2	mm
3(2+E)x25	22,5
3(2+E)x35	25,4
3(2+E)x50	29,1
3(2+E)x70	33,4
3(2+E)x95	38,8
3(2+E)x120	42,5
3(2+E)x150	47,1
3(2+E)x185	52,4
3(2+E)x240	59,3
4(3+E)x1	10,4
4(3+E)x1,5	11,3
4(3+E)x2,5	12,4
4(3+E)x4	13,7
4(3+E)x6	15,3
4(3+E)x10	17,7
4(3+E)x16	20,4
4(3+E)x25	25,0
4(3+E)x35	28,2
4(3+E)x50	32,4
4(3+E)x70	37,1
4(3+E)x95	43,1
4(3+E)x120	47,4
4(3+E)x150	52,5
4(3+E)x185	58,4
5(4+E)x1	11,5
5(4+E)x1,5	12,3
5(4+E)x2,5	13,6
5(4+E)x4	15,2
5(4+E)x6	16,9
5(4+E)x10	19,6
5(4+E)x16	22,6
5(4+E)x25	27,7
5(4+E)x35	31,2
5(4+E)x50	36,1
5(4+E)x70	41,3
5(4+E)x95	47,9
5(4+E)x120	52,7
5(4+E)x150	58,3
5(4+E)x185	64,9

Number of cores x conductor cross-section	Overall diameter nom.
mm^2	mm
6x1	11,9
7x1	12,5
10x1	16,0
12x1	16,8
14x1	17,6
16x1	18,5
19x1	19,7
24x1	23,2
27x1	23,7
30x1	24,8
33x1	25,7
37x1	26,7
6x1,5	12,6
7x1,5	13,3
10x1,5	17,3
12x1,5	17,9
14x1,5	18,8
16x1,5	20,0
19x1,5	21,1
24x1,5	25,0
27x1,5	25,6
30x1,5	26,5
33x1,5	27,7
37x1,5	28,8
6x2,5	14,2
7x2,5	15,0
10x2,5	19,4
12x2,5	20,1
14x2,5	21,1
16x2,5	22,5
19x2,5	23,7
24x2,5	28,1
27x2,5	28,7
30x2,5	29,8
33x2,5	31,1
37x2,5	32,3

Number of cores x conductor cross-section	Overall diameter nom.
mm^2	mm
6x4	15,6
7x4	16,7
10x4	21,5
12x4	22,4
14x4	23,5
16x4	25,1
19x4	26,4
24x4	31,4
27x4	32,0
30x4	33,4
33x4	34,8
37x4	36,3

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. - CEPJ/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