

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Electric Power Cable**with type designation(s)
BU 0,6/1 kV

Issued to

Suzhou Draka Cable Co. Ltd.
SUZHOU JIANGSU, 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.****Voltage class (kV) 0,6/1****Temp. class (°C) 90**Issued at **Hamburg** on **2017-05-12**This Certificate is valid until **2022-05-11**.DNV GL local station: **Shanghai**for **DNV GL**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.



Product description

Type: BU 0,6/1 kV

Conductors: Plain or Tinned, stranded copper class 2
Core insulation: Mica tape + XLPE
Outer sheath: SHF2

Number of cores x conductor cross-section mm ²	Overall diameter Nominal mm	Number of cores x conductor cross-section mm ²	Overall diameter Nominal mm	Number of cores x conductor cross-section mm ²	Overall diameter Nominal mm
1 x 1,0	5,6	3 x 10	16,6	5 x 70	41,9
1 x 1,5	5,9	3 x 16	18,9	5 x 95	47,5
1 x 2,5	6,3	3 x 25	23,1		
1 x 4	7,0	3 x 35	25,8	6 x 1,0	13,2
1 x 6	7,5	3 x 50	29,2	7 x 1,0	13,2
1 x 10	8,4	3 x 70	33,8	8 x 1,0	15,0
1 x 16	9,7	3 x 95	38,3	10 x 1,0	17,2
1 x 25	11,4	3 x 120	42,4	12 x 1,0	17,8
1 x 35	12,8	3 x 150	47,0	14 x 1,0	18,7
1 x 50	14,3	3 x 185	52,2	16 x 1,0	19,7
1 x 70	16,5	3 x 240	58,6	19 x 1,0	21,0
1 x 95	18,4	3 x 300	64,7	24 x 1,0	24,6
1 x 120	20,4			27 x 1,0	25,1
1 x 150	22,5	4 x 1,0	11,0	30 x 1,0	26,1
1 x 185	25,1	4 x 1,5	11,7	37 x 1,0	28,4
1 x 240	28,0	4 x 2,5	12,9		
1 x 300	30,7	4 x 4	14,6	6 x 1,5	14,2
		4 x 6	15,9	7 x 1,5	14,2
2 x 1,0	9,3	4 x 10	18,3	8 x 1,5	16,0
2 x 1,5	10,0	4 x 16	21,1	10 x 1,5	18,3
2 x 2,5	10,9	4 x 25	25,7	12 x 1,5	18,9
2 x 4	12,2	4 x 35	28,7	14 x 1,5	20,1
2 x 6	13,6	4 x 50	32,5	16 x 1,5	21,2
2 x 10	15,4	4 x 70	37,8	19 x 1,5	22,4
2 x 16	17,7	4 x 95	42,6	24 x 1,5	26,4
2 x 25	21,4	4 x 120	47,3	27 x 1,5	27,0
2 x 35	24,0	4 x 150	52,3	30 x 1,5	28,0
2 x 50	27,1	4 x 185	58,3	37 x 1,5	30,4
2 x 70	31,6	4 x 240	65,6		
2 x 95	35,6	4 x 300	72,4	6 x 2,5	15,6
2 x 120	39,4			7 x 2,5	15,6
2 x 150	43,7	5 x 1,0	12,0	8 x 2,5	17,7
2 x 185	48,5	5 x 1,5	12,7	10 x 2,5	20,3
2 x 240	54,5	5 x 2,5	14,3	12 x 2,5	21,0
2 x 300	60,1	5 x 4	16,0	14 x 2,5	22,1
		5 x 6	17,7	16 x 2,5	23,5
3 x 1,0	10,1	5 x 10	20,3	19 x 2,5	24,8
3 x 1,5	10,7	5 x 16	23,3	24 x 2,5	29,3
3 x 2,5	11,6	5 x 25	28,2	27 x 2,5	30,0
3 x 4	13,3	5 x 35	31,9	30 x 2,5	31,1
3 x 6	14,5	5 x 50	36,0	37 x 2,5	33,8

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.

General power and lighting. Control. Halogen free. Low smoke. Flame retardant in bunch Cat. A.

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 60092-353	2016-09	Single and multicore non-radial field power cables with extruded solid insulation for rated Voltages of 1 kV and 3 kV	
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 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 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 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	Minimum 90 min. test.
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 61034-1/2	2013-06	Measurement of smoke density of cables burning under defined conditions – Test apparatus, procedure and requirements	

Marking of product

Suzhou Draka – BU – Size – 0,6/1 kV – IEC 60331 – IEC 60332-3-22 Cat. A – Lot. No.

Periodical assessment



Job Id: **262.1-013242-2**
Certificate No: **TAE00001YF**

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