



# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. E-9872

This Certificate consists of 4 pages

*This is to certify that the*  
**Electric Cable, Power Current**  
*with type designation(s)*

**TXOI 0,6/1 kV, TXOI-VFD 0,6/1 kV (1,8/3 kV)**

*Manufactured by*

**Draka**

**AMSTERDAM, Netherlands**

*is found to comply with*

Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards

IEC 60092-353

IEC 60332-3-22

IEC 60332-3-24

IEC 60754-1/2

IEC 61034-1/2

*Application*

General power and lighting. Control. Flame retardant. Halogen free. Low smoke.

Type	Voltage class (kV)	Temp. class (°C)
TXOI 0,6/1 kV	0,6/1	90
TXOI-VFD 0,6/1 kV (1,8/3 kV)	0,6/1	90

*Place and date*

Høvik, 2009-09-30

for DET NORSKE VERITAS AS

*Marit Laumann*

Marit Laumann  
Head of Section



*Local Office*

DNV Rotterdam (Barendrecht)

*This Certificate is valid until*  
2013-06-30

*Ivar Bull*

Ivar Bull  
Surveyor

Notice: 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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: E-9872  
 File No.: 827.10  
 Job Id: 262.1-008547

## Product description

Type: TXOI 0,6/1 kV & TXOI-VFD 0,6/1 kV (1,8/3 kV)  
 Conductors: Plain, stranded copper  
 Core insulation: XLPE  
 Inner covering: Tape  
 Metal covering: Tinned, Copper wire braid  
 Outer sheath: SHF1  
 TXOI 0,6/1 kV

Number of cores x conductor cross-section mm <sup>2</sup>	Overall diameter mm
1 x 16	10,0±0,8
1 x 25	11,5±0,8
1 x 35	12,5±0,8
1 x 50	14,5±0,8
1 x 70	17,0±0,8
1 x 95	18,5±0,8
1 x 120	20,5±1,0
1 x 150	23,0±1,0
1 x 185	25,0±1,0
1 x 240	28,5±1,0
1 x 300	31,5±1,5
2 x 1,5/2,5	9,0±0,5
2 x 2,5/2,5	10,0±0,8
2 x 4/4	11,0±0,8
2 x 6/6	12,5±0,8
2 x 10/10	14,5±0,8
2 x 16/16	18,0±1,0
2 x 25/16	21,0±1,0
2 x 35/16	23,5±1,0
3 G 1,5	9,5±0,5
3 G 2,5	10,5±0,8
3 x 1,5/2,5	9,5±0,5
3 x 2,5/2,5	10,5±0,8

Number of cores x conductor cross-section mm <sup>2</sup>	Overall diameter mm
3 x 4/4	11,5±0,8
3 x 6/6	13,5±0,8
3 x 10/10	16,0±0,8
3 x 16/16	18,5±0,8
3 x 25/16	21,0±1,0
3 x 35/16	24,5±1,0
3 x 50/25*	26,0±1,0
3 x 70/35*	29,5±1,0
3 x 95/50*	34,5±1,5
4 G 1,5	10,5±0,8
4 G 2,5	11,5±0,8
4 G 4	13,5±0,8
4 G 6	14,5±0,8
4 x 1,5/2,5	10,5±0,8
4 x 2,5/2,5	11,5±0,8
4 x 4/6	13,5±0,8
4 x 6/6	14,5±0,8
4 x 10/10	17,0±0,8
4 x 16/16	21,0±1,0
4 x 25/16	24,5±1,0
4 x 35/16	27,0±1,0
4 x 50/25*	28,5±1,0
4 x 70/35*	34,0±1,5
4 x 95/50*	38,0±1,5

Number of cores x conductor cross-section mm <sup>2</sup>	Overall diameter mm
5 G 1,5	11,5±0,8
5 G 2,5	12,5±0,8
5 x 1,5/2,5	11,5±0,8
5 x 2,5/4	12,5±0,8
7 x 1,5/4	12,0±0,8
7 x 2,5/6	14,0±0,8
10 x 1,5/6	16,5±0,8
12 x 1,5/6	16,5±0,8
12 x 2,5/6	18,0±0,8
14 x 1,5/6	17,0±0,8
16 x 1,5/6	18,0±0,8
19 x 1,5/6	19,0±0,8
24 x 1,5/10	22,5±1,0
27 x 1,5/10	23,0±1,0
37 x 1,5/10	25,5±1,0
19 x 2,5/10	21,0±1,0

G = with yellowgreen core      \* = Sector shaped



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#### TXOI-VFD 0,6/1 kV

Number of cores x conductor cross- section mm <sup>2</sup>	Overall diameter mm
3 x 95 + 3 x 16	42,5±2,0
3 x 120 + 3 x 25	47,5±2,0

#### Application/Limitation

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.

#### Type Approval documentation

Data sheets: TXOI\_1kV.doc dated 2002-08-27  
TXOI\_VFD\_1-3kV\_3x95+3x16 dated 2004-02-06  
Test reports

#### Tests carried out

Type tested according to: IEC 60092-353, IEC 60332-3-22, IEC 60332-3-24, IEC 60754-1/2 and IEC 61034-1/2.

#### Marking of product

To be marked: DRAKA 02 - TXOI or TXOI-VDF - size - 0,6/1 kV.

#### Certificate retention survey

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

The main elements of the survey are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance



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- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Survey to be performed at least every second year.

END OF CERTIFICATE