

**DNV**

# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

**CERTIFICATE NO. E-8634**

This Certificate consists of 4 pages

*This is to certify that the*  
**Electric Cable, Power Current**  
*with type designation(s)*  
**BFOU 0,6/1 kV,**


*Manufactured by*  
**Draka Marine, Oil & Gas International**  
Houston, TX 77032, United States

*is found to comply with*  
IEC 60092-353 (2001-04) with Amendment 1 – Annex A  
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards  
IEC 60331-21 (1999-04)  
IEC 60331-31 (2002-07)  
IEC 60332-3-22 (2000-10)  
IEC 60754-1 (1994-01)  
IEC 60754-2 (1997-04)  
IEC 61034-2 (2005-04)

*Application*  
General power and lighting. Control. Halogen free. Low smoke.

Type	Voltage class (kV)	Temp. class (°C)
BFOU 0,6/1 kV	0,6/1	90


*Place and date*  
Høvik, 2007-08-08  
for DET NORSKE VERITAS AS

  
Frode Berntsen  
Head of Section



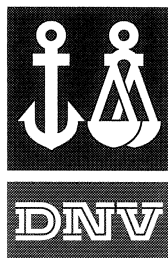
*Local Office*  
DNV Oslo

*This Certificate is valid until*  
2011-12-31

  
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.**

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.



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**Name and place of manufacturer:**

Draka Norsk Kabel AS  
Drammen, Norway

**Product description**

Type: BFOU 0,6/1 kV

Construction:

Conductors: Tinned, stranded copper and Mica-tape helically applied directly over the copper conductor

Core insulation: EPR

Filler: Flame retardant halogen-free thermoplastic compound

Metal covering: Tinned, Copper wire braid (O) or Galv. Steel wire braid (C)

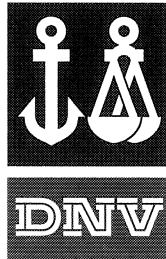
Outer sheath: SHF2

BFOU 0,6/1 kV

Number of cores x conductor cross-section mm <sup>2</sup>	Overall diameter mm
1 x 50	19,5 ± 0,8
1 x 120	26,5 ± 1
1 x 185	31,5 ± 1,5
1 x 240	34,0 ± 1,5
1 x 300	37,5 ± 1,5
2 x 1,5	13,5 ± 0,8
2 x 2,5	14,5 ± 0,8
2 x 4	16,0 ± 0,8
2 x 10	20 ± 1
3 x 2,5	15,5 ± 0,8
3 x 4	17,5 ± 0,8
3 x 6	19 ± 0,8
3 x 10	21,5 ± 1
3 x 16	25 ± 1
3 x 25	28,0 ± 1

Number of cores x conductor cross-section mm <sup>2</sup>	Overall diameter mm
3 x 35	32 ± 1,5
3 x 50	36 ± 1,5
3 x 70	41,5 ± 2
3 x 95	46,5 ± 2
3 x 120	51 ± 2,5
4 x 2,5	16,5 ± 0,8
4 x 4	18,5 ± 0,8
4 x 6	20,5 ± 1
4 x 10	23,5 ± 1
4 x 16	27,0 ± 1
4 x 25	31 ± 1,5
4 x 50	39,5 ± 1,5
4 x 95	51,5 ± 2,5
5 x 2,5	18,5 ± 0,8
5 x 4	20,5 ± 1

Number of cores x conductor cross-section mm <sup>2</sup>	Overall diameter mm
6 x 2,5	19,5 ± 0,8
7 x 1,5	18 ± 0,8
7 x 2,5	19,5 ± 0,8
8 x 2,5	21,5 ± 1
12 x 2,5	25,0 ± 1
19 x 1,5	27 ± 1
19 x 2,5	29,5 ± 1
20 x 2,5	30,5 ± 1,5
30 x 2,5	36 ± 1,5



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Number of cores x conductor cross-section mm <sup>2</sup>	Overall diameter mm
3G x 2,5	15,5 ± 0,8
3G x 4	17,5 ± 0,8
3G x 6	19 ± 0,8

Number of cores x conductor cross-section mm <sup>2</sup>	Overall diameter mm
3G x 10	21,5 ± 1
3G x 16	24,5 ± 1
3G x 25	28 ± 1

Number of cores x conductor cross-section mm <sup>2</sup>	Overall diameter mm
4G x 150	62,5 ± 3,0
5G x 2,5	18 ± 0,8

### Application/Limitation

This type of cable is fire resistant in accordance with IEC Publication 60331-21 and 60331-31.

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: Draka BFOU\_0,6/1kV dated 2007-07-02.  
Test reports

### Tests carried out

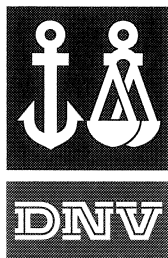
Type tested according to:

Standard cable: IEC 60092-350, IEC 60331-21, IEC 60331-31, IEC 60332-3-22, IEC 60754-1/2, IEC 61034-1/2. IEC 60092-353 (2001-04) with Amendment 1 - Annex A (enhanced insulation thickness)

On special request: Cold bend (-40 °C)/impact (-35 °C) test: CSA C 22.2 No 0.3-M1985 and IEC 60331-21 (1000 °C for 3 hours)

### Marking of product

To be marked: DRAKA NORSK KABEL or DRAKA 01 – BFOU 0,6/1 kV – size



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

Survey to be performed at least every second year.

END OF CERTIFICATE