

## Type Approval Certificate Extension

This is to certify that Certificate No.98/00004 for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

<b>PRODUCER</b>	<b>DRAKA Norsk Kabel AS</b>	
<b>PLACE OF PRODUCTION</b>	Kjerraten 16 P.O. Box 369 Bragernes, N-3001 Drammen, Norway	
<b>DESCRIPTION</b>	Flame retardant and fire resistant halogen-free, multicore power cable.	
<b>TYPE</b>	BFCU 0.6/1kV (see Range), (MGT/EPR/GSWB/LSF)	
<b>APPLICATION</b>	Fixed wiring on ships, offshore and industrial installations	
<b>STANDARD</b>	Conductor:	BS 6360 -Tinned, annealed, stranded copper
	Insulation:	Micra-tape BS 7655 Section 1.2 - EPR, type GP4
	Bedding:	EPR compound
	Armour:	Galvanised steel wire braid
	Outer sheath:	BS 7655 Section 2.6, type SW4
	Design guide:	BS 7917 or 6883
	Fire resistant:	IEC 60331
	Flame retardant:	IEC 60332-3-22 IEC 60332-1
<b>RATINGS</b>	0.6/1kV	
<b>RANGE</b>	No. of Cores	Cross Sectional Area (mm <sup>2</sup> )
	2	1.5 to 10
	3	1.5 to 120
	4	1.5 to 120

<b>Certificate No.</b>	<b>08/70025(E3)</b>
<b>Issue Date</b>	<b>27 October 2008</b>
<b>Expiry Date</b>	<b>07 January 2013</b>
<b>Sheet</b>	<b>1 of 2</b>

Poul Erik Hansen  
Copenhagen Design Support Centre

Lloyd's Register EMEA  
Strandvejen 104A, DK-2900 Hellerup

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5 & 7	1.5 & 2.5
10 & 19	1.5 & 2.5
27	2.5

**OPERATIONAL  
LIMITATIONS**

Maximum conductor temperature 90°C.

*"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."*

*The attached Design Appraisal Document No TA08/70025(E3) and its supplementary Type Approval Terms and Conditions form part of this Certificate.*

All other details remain as the previous Certificate No.98/00004(E2) to which this extension should be attached.

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# Marine Design Appraisal Document

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Date  
24 October 2008

Quote this reference on all future communications  
TA/I085426/0812137/PEH

## THE LR TYPE APPROVAL SYSTEM, 2002

Issued to: DRAKA NORSK KABEL AS, Drammen, Norway

for: FLAME RETARDANT AND FIRE RESISTANT HALOGEN FREE MULTICORE POWER CABLE, Type BFCU 0,6/1kV  
TYPE APPROVAL CERTIFICATE No. 08/70025(E3)

The under-noted documents have been reviewed for compliance with the requirements of the LR Type Approval System, 2002 and this Design Appraisal Document forms part of the Certificate.

### APPROVAL DOCUMENTATION

Request for Services	07.07.2008
Draka Norsk Kabel letter to LR Oslo	07.07.2008

All other Approval Documentation/ Test Reports as listed on the Previous Design Appraisal Document no. 98/00004(E2)

### DATA SHEETS / TEST REPORTS

Spec Sheet: Draka Cableteq, Marine, Oil and Gas International BFCU 0.6/1kV; MGT/ERP/EPR/GSWB/LSF. page 01-04	15.02.2007
DNV Certificate No. 96-OSL-AQ-6500; ISO 9001:2000	25.01.2008
DNV Certificate No. 97-OSL-SYMI-8009; ISO 14001:2004	25.01.2008

Poul Erik Hansen  
Senior Surveyor, Electrical Section

### *Supplementary Type Approval Terms and Conditions*

*Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval than for any other use, nor approval of any product(s) designed or manufactured otherwise in strict conformity with the said representative sample.*

*Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.*

*Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations. Lloyd's Register of Shipping reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the LR Type Approval System Procedure*

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

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**Part 1B**  
**Subject: Electrical Equipment (Not Environmentally Tested)**  
**Product: Cables Power (Part 1B)**

Producer/Licence No.		Description of Product			Cert. No.
Type	Details of Approval	Application	Remarks		
Draka Norsk Kabel AS, Kjeratzen 16, P.O.Box 369 Bragernes N-3001, Drammen, Norway.	BFCU 0.6/1 kV MGT/EPR/EPR/GS WB/LSF	Flame retardant and fire resistant halogen-free multicore power cables, mica tape EPR insulation, Galvanised steel wire armour braiding. No of cores 2 3 4 5 & 7 10 & 19 27 Rated voltage: 0.6/1 kV Maximum conductor temperature 90° C	Fixed wiring on ships, offshore and industrial installations	Expires: 7 January 2013 Designed and tested to: BS 6360 BS 7655 section 1.2 BS 7655 section 2.6 BS7917 or 6883 IEC 60332-3-22 IEC 60331	08/70025(E3)