



## *Confirmation of Product Type Approval*

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product. This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 24/MAR/2019. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 05/OCT/2015 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

**Product Name:** Cable, Ship and Offshore Flame Retardant Electric Cables  
**Model Name(s):** RFOU P1/P8, RFCU/RFPU 0,6/1 kV & RFOU 0.6/1kV  
(3x240/120mm<sup>2</sup> Class5)

**Presented to:**

DRAKA NORSK KABEL AS  
POSTBOKS 369  
DRAMMEN  
Norway

**Intended Service:**

General purpose armoured cable for fixed installation for power, control and lighting. Special cable for Variable Frequency Drives is available on size 3x240/120mm<sup>2</sup>.

**Description:**

Ship and offshore flame retardant, Halogen-free electric cables; Single and Multi-cored tinned, stranded copper conductor to IEC 60228 class 5, with EP-rubber insulation, tinned copper galvanised steel or phosphor bronze wire braid; and SHF2 sheathed overall

**Ratings:**

Temperature Class + 90 degree C, Ampacity as per 4-8-3/Table 6 of the Rules. See attached specifications for more details.

**Service Restrictions:**

Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

**Comments:**

Test certificates are to be submitted to ABS Surveyor when requested. For cable sizes larger than indicated, the appropriate routine tests including a flame spread test are to be performed in the presence of an ABS surveyor. The cables shall withstand the fire tests specified in IEC 60350.

**Notes / Documentation:**

This Product Design Assessment (PDA) is valid only for products intended for use

on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

**Term of Validity:**

This Product Design Assessment (PDA) Certificate 05-LD496931B-4-PDA, dated 06/Oct/2010 remains valid until 05/Oct/2015 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

**ABS Rules:**

2010 Steel Vessel Rules 1-1-4/7.7, 4-8-3/9 and 2008 MODU 4-3-4/13

**National Standards:**

NEK TS606:2009 ed4.0

**International Standards:**

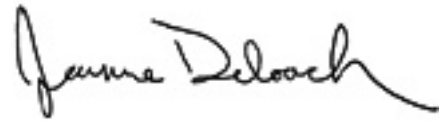
IEC 60092-351 ed3.0:2004, IEC 60092-353 am1 ed2.0:2001, IEC 60092-359 ed1.2:1999, IEC 60332-3-22 ed1.1:2009, IEC 60754-1 ed2.0:1994, -2 am1 ed1.0:1997, IEC 61034-1 ed3.0:2005, -2 ed3.0:2005

**Government Authority:**

**EUMED:**

**Others:**

| Model Certificate | Model Certificate No | Issue Date  | Expiry Date |
|-------------------|----------------------|-------------|-------------|
| PDA               | 05-LD496931B-4-PDA   | 06/OCT/2010 | 05/OCT/2015 |



ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.