



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 19/AUG/2014. 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 10/APR/2017 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, for Ships and Offshore Installations

Model Name(s): AFITOX SM EV BM(*) / SM EV BM(*)BC / SM EV BM(*)S

Presented to:

NEXANS BRASIL SA
AV. CEL. PHIDIAS TAVORA, 100, JARDIM AMERICA
RIO DE JANEIRO
Brazil

Intended Service:

General Instrumentation Cables

Description:

Armored or not, flame retardant, fire resistant, halogen free, low smoke instrumentation electric cables. Construction: stranded plain or tinned annealed copper conductor class 2 or 5 non compacted; (-F) - added at the end of the code type to identify the conductors class 5 (flexible). Mica tape and a thermoset compound HEPR insulation; Aluminium polyester tape shielding with a minimum 0,038 mm approximate thickness, by pair/tern and/or over the core assembling. Each shielding shall have a copper drain conductor; Extruded or lapped inner covering; Metal protective covering with copper or galvanized steel braid; Thermosetting compound type SHF2 Mud resistant outer sheathing; Cables: 1 x 2 x 0.75 mm²; (1 up to 30 pairs) x 2 x (0.75 mm² up to 1.5 mm²); (1 up to 19 triads) x 3 x (0.75 mm² up to 1.5 mm²); 1 x 4 x (1.0 mm² and 1.5 mm²). For optional construction with aluminium polyester shield, the cables can be type: (*)I - Individual shield / (*)C - Collective shield / (*)M - Individual and Collective shield.

Ratings:

250 V; temperature class up to 90°C; maximum current carrying capacity as per 4-8-3/Table 6 of the Rules

Service Restrictions:

Unit Certification is 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: Installation to be carried out in compliance with 4-8-4/21 of 2012 Steel Vessels Rules or 4-3-3/5 of 2012 MODU Rules, as applicable.

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 12-RJ871906E-PDA, dated 11/Apr/2012 remains valid until 10/Apr/2017 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: 2012 Steel Vessel Rules 1-1-4/7.7, 4-8-3/9 - 2012 MODU Rules 4-3-4/7

National Standards:

International Standards: IEC 60092-350, 60092-351, 60092-376, 60332-3-22, 60331-21

Government Authority:

EUMED:

Others:

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	12-RJ871906E-PDA	11/APR/2012	10/APR/2017



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.