



Marine & Offshore
Division

Certificate number: 41939/A0 BV

File number: ACE 14/163/3

Product code: 2662D

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

ERICO FRANCE SARL
ANDREZIEUX BOUTHEON - FRANCE

for the type of product

INSULATED BUSBARS (LOW VOLTAGE)
ERIFLEX Insulated Braided conductor IBSB/IBSBR

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 08 Feb 2021

For BUREAU VERITAS,

At BV LYON, on 08 Feb 2016,

Jean-Marc Cabuzel



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Product model or type designation:

-ERIFLEX Insulated Braided conductor **IBSB/IBSBR**

Product description:

- IBSB/IBSBR Insulated Braided Conductor

1.1 - IBSB - Tinned Copper

IBSB - S - L - HS1 - HS2

- S: cross section

- L: distance between axes holes (mm)

- HS1 - HS2: Diameters of holes (mm)

- S = Cross Sectional Area, mm² – 25, 50, 70, 100, 120, 185, and 240

- L = variable length, 100mm to 5m

- HS1 – HS2 = Bolt hole Opening, mm – 6.5 to 14mm (or imperial equivalent). Same or different hole sizes on each end”

1.2 - IBSBR - Red Copper

IBSBR - S - L - HS1 - HS2

- S: cross section

- L: distance between axes holes (mm)

- HS1 - HS2: Diameters of holes (mm)

- S = Cross Sectional Area, mm² – 25, 50, 70, 100, 120, 185, and 240

- L = variable length, 100mm to 5m

- HS1 – HS2 = Bolt hole Opening, mm – 6.5 to 14mm (or imperial equivalent). Same or different hole sizes on each end”

1.3 - Features:

Material	: Copper, Polyvinylchloride
Dielectric Strength	: 20 kV/mm
Flammability Rating	: UL 94V-0
Max Working Voltage, IEC/UL 758	: IEC/UL 758: 1000VAC, 1.500VDC
Max Working Voltage, UL 67	: 600 VAC/DC
Working Temperature	: 105°C Max
Wire Diameter	: 0,15 mm
Complies With	: IEC 60439.1, IEC 61439.1, IEC 61439.1 Class II

2. DOCUMENTS AND DRAWINGS:

Erico:

- Technical documentation No. IBS002 Rev. V, dated Feb 19, 2015
- IBSB_IBSBR_Insulated_Braided_Conductor_for_Circuit_Breakers, dated 2015
- Data Sheet Insulated Braided Conductor (IBSB & IBSBR), dated 2012
- Feature Products, dated 2015

3. TEST REPORTS:

APAVE:

- Test Report for range of insulated shunt conductor No. 7474740-001-1-ang ,dated 28 March 2014
- Test Report for range of insulated braided conductor No. 6943742-001-1-ang ,dated 12 July 2013

4. APPLICATION / LIMITATION:

4.1 - According to BV Rules for the Classification of Steel Ships and IEC 60092 series.

4.2 - The nominal current on the busbars will be calculated with an ambient temperature of 45°C.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be supplied by **ERICO FRANCE SARL** in accordance with the type described in this certificate.

5.2 - This type of product is within the category DBV of Bureau Veritas Rule Note NR320.

5.3 - **ERICO FRANCE SARL** has declared to Bureau Veritas that the type of product described in this certificate may be manufactured at the following production site:

**ERICO France SARL
rue Charles Dalliere BP 31
42161 Andrezieux Boutheon Cedex
France**

6. MARKING OF PRODUCT:

- Trade name,
- Serial number,
- Equipment type number or model identification under which it was type-tested.

7. OTHERS:

This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time and that **ERICO FRANCE SARL - FRANCE** will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

***** END OF CERTIFICATE *****