CERTIFICATE NUMBER	23-2473223-PDA
EFFECTIVE DATE	09-Nov-2023
EXPIRY DATE	08-Nov-2028
ABS TECHNICAL OFFICE	Houston ESD - Electrical

CERTIFICATE OF

Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

ERICO FRANCE SARL

located at

RUE CHARLES DALLIERE BP 31, , 42161 ANDREZIEUX BOUTHEON CEDEX, France

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product:	**Busbar Trunking System**
Model:	**nVent ERIFLEX Flexibar - Plain Copper;** **nVent ERIFLEX Flexibar Advanced - Plain Copper,** **nVent ERIFLEX Flexibar - Tinned Copper** **nVent ERIFLEX Flexibar Advanced - Tinned Copper** **n...**
Endorsements:	
Tier:	**3 - Type Approved, unit certification not required**

This Product Design Assessment (PDA) Certificate remains valid until 08/Nov/2028 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

Soheni Haque

Soheni Haque, Sr. Managing Principal Engineer

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

Sensitivity: Internal & Restricted

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Tier: 3 - Type Approved, unit certification not required

Product: **Busbar Trunking System**
Model: **nVent ERIFLEX Flexibar - Plain Copper;**
nVent ERIFLEX Flexibar Advanced - Plain Copper,
nVent ERIFLEX Flexibar - Tinned Copper
nVent ERIFLEX Flexibar Advanced - Tinned Copper
nVent ERIFLEX Flexibar SUMMUM - Plain Copper
Endorsements:

Intended Service:
Marine & Offshore Applications - Low Voltage Industrial Power Distribution and Control on board, including Switchboards, Motor Control Centers, Panelboards, Industrial Control Panels, Power Supplies, Drive Units, Transformers, Electrical Machinery, HVAC Chiller Controls, Power Converters, and Busbar Systems, on board of ships and offshore platforms.

Description:
nVent ERIFLEX Flexibar is formed with multiple layers of thin electrolytic copper, available in plain or tinplated, for increasing flexibility. The insulation is a PVC compound (plain copper and tin-plated copper - Flexibar Standard) with a high resistance, self extinguishing properties, or a TPE compound (Halogen-free, Low Smoke - Flexibar Advanced), or a silicone compound (Summum plain copper, to achieve low smoke and halogen free).
Flexibar connections are made by punching directly through the laminates, no lugs are needed.
Marking:
"ERIFLEX FLEXIBAR" or "nVent ERIFLEX FLEXIBAR" may be followed by "S" and (No. of laminates) x (Width in mm) x (Thickness in mm). Optional recognized component mark.
“ERIFLEX FLEXIBAR ADVANCED” or “nVent ERIFLEX FLEXIBAR ADVANCED” may be followed by (No. of laminates) x (Width in mm) x (Thickness in mm). Optional recognized component mark.
Identifications for various flexibars and Insulated Braided Conductors are listed in the Product Catalogues.

Rating:
1. Maximum Continuous Voltage 1000 V AC/1500 V DC,
2. Working Temperature:
   (1) Flexibar Standard: -50°C to 105°C
   (2) Flexibar Advanced: -50°C to 115°C
   (3) Summum Plain Copper: -50°C to 280°C

Service Restriction:
1. 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.
2. When used in Panelboards, Dead Front Switchboards, and Motor Control Centers:
   (1) Ampacities are to be per Table 1 in UL Report E125470,
   (2) The acceptability of the Temperature Rise at the connection point of the Flexibar to a Component, such as to a Circuit Breaker wiring terminal, shall be evaluated in the End-Use Application,
   (3) The ability of the Flexibar to withstand a Short Circuit shall be evaluated in the End-Use Application.

Comments:
1. Flexibars are to bear the recognized marking including the company identification, model or product designation.
2. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes/Drawing/Documentation:
NA

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Tier: 3 - Type Approved, unit certification not required

Terms of Validity:
This Product Design Assessment (PDA) Certificate remains valid until 08/Nov/2028 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

STANDARDS

ABS Rules:
2023 Rules for Conditions of Classification, Part 1 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:
2023 Marine Vessel Rules: 4-8-3/1.7, 4-8-3/5.3.2, 4-8-3/5.5

2023 Rules for Conditions of Classification, Part 1 - Offshore Units and Structures: 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:
2023 Mobile Offshore Units Rules: 4-3-1/11, 6-1-7/9.9

National:
UL 67, Ed.13, 2023;
UL 891, Ed.12, 2019 / CSA-C22.2 No. 244, Ed.2, 2019
UL 758 Ed.3, 2022
UL 94, Ed.7, 2023
UL 854, Ed.12, 2020
UL 2556, Ed. 5, 2021
UL 2885, issue 4, 2021

CSA-C22.2 No. 29, Ed. 6, 2015
CSA-C22.2 No. 210, 2020

International:
IEC 60695-11-10 (2013)
IEC 61439-1 (2020)
IEC 60754-1, 60754-2 (2011)
IEC 62821-1 (2015)

Government:
N/A

EUMED:
N/A

OTHERS:
NF EN 61439-1 (2021)
EN IEC 60947-7-1 (2009)