



CERTIFICATE NUMBER	21-2113442-PDA
EFFECTIVE DATE	30-Apr-2021
EXPIRY DATE	29-Apr-2026
ABS TECHNICAL OFFICE	Hamburg Engineering Department

CERTIFICATE OF Product Design Assessment

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

ELAFLEX HIBY GMBH & CO. KG

located at

SCHNACKENBURGALLEE 121, 22525 HAMBURG, Germany

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: Expansion Joints
Model: ERV-GS, ERV-GS HNBR, ERV-G, ERV-R
Endorsements:
Tier: 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 29/Apr/2026 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


Eustratios Maliatsos, Engineer/Consultant

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)

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Tier: 2 - PDA Issued

Product: Expansion Joints
Model: ERV-GS, ERV-GS HNBR, ERV-G, ERV-R
Endorsements:

Intended Service:

Expansion joints for use in machinery spaces on-board of marine and mobile or fixed offshore installations in
- oil piping systems and in Class III circulating water systems (ERV-GS, ERV-GS HNBR).
- oil piping systems and in town and natural gas systems (ERV-G).
- Class III circulating water systems (ERV-R).

Description:

Expansion Joints made of composite rubber fitted with either stainless steel or carbon steel flanges, the latter zinc plated or hot galvanized.

ERV-GS and ERV-GS HNBR: Yellow Steel (Gelbstahl) reinforced with steel wire cord, sizes DN 25 to DN 600, with CR-cover and NBR or HNBR liner, fire resistant to ISO 15540:2016 and ISO 15541:2016.

ERV-G: Yellow Band (Gelbring) reinforced with PA textile cord, sizes DN 25 to DN 1000, with CR-cover and NBR liner.

ERV-R: Red Band (Rotring) reinforced with PA textile cord, butyl rubberized, sizes DN 25 to DN 1000, with EPDM cover and Butyl (IIR)/EPDM liner.

Markings:

ERV - GS: Two (2) yellow bands, ERV DN ..., PN ..., production date.

ERV - GS HNBR: Yellow-blue-yellow bands, ERV DN ..., PN ..., production date.

ERV-G: Yellow band, ERV DN..., PN ..., production date.

ERV-R: Red band, ERV DN..., PN..., production date.

Rating:

Nom. pressure: 10 / 16 bar.

Nom. temperature: -20°C up to +90°C, temporarily up to +100°C (ERV-GS, ERV-G); -35°C up to +100°C, temporarily up to +125°C (ERV-GS HNBR), -40°C up to +100°C, temporarily up to +120°C (ERV-R).

Service Restriction:

- 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. Installation of the expansion joints only in accessible locations.
- Expansion joints are to be installed in accessible locations to permit regular inspection and / or periodic servicing.
- Expansion joints type ERV-R are not to carry mineral oil products but are suitable in oily atmospheric environments.

Comments:

- The manufacturer has provided a declaration about the control of, or the lack of asbestos in this product.
- Expansion Joints to be selected and installed in accordance with the manufacturer's instructions and recommendations.
- Expansion Joints are to bear permanent identification, such as manufacturer's name or trademark, standard of compliance, material identity, pressure rating, etc., as required by the standard of compliance or the manufacturer's specification. Such markings may be cast or forged integral with, stamped on, or securely affixed by nameplate on the component, and are to serve as a permanent means of identification of the component throughout its service life in accordance with 4-6-1/7.1.4 & Table 2 of the ABS Marine Vessels Rules.

Notes/Drawing/Documentation:

See Attached File.

Terms of Validity:

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STANDARDS

ABS Rules:

2021 Rules for Conditions of Classification: 1-1-4/7.7, 1-1-A3 and A4, which covers the following:

2021 Rules for Building and Classing Marine Vessels: 4-6-1/7, 4-6-2/5.8, 4-6-2/5.17.

2021 Rules for Conditions of Classification - Offshore Units and Structures: 1-1-4/9.7, 1-1-A2 and A3, which covers the following:

2021 Rules for Building and Classing Mobile Offshore Units: 4-2-1/11.7.

National:

NA

International:

ISO 15540:2016

ISO 15541:2016

Government:

NA

EUMED:

NA

OTHERS:

NA