



Marine & Offshore

Certificate number: 06823/F0 BV

File number: ACM 135/503/1

Product code: 2102I

*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*

**ELAFLEX HIBY GmbH & Co. KG**

Hamburg - GERMANY

*for the type of product*

**NON-METALLIC EXPANSION JOINTS / BELLOWS**

RUBBER EXPANSION JOINTS, type: ERV-GS / GS-HNBR

### Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships

BUREAU VERITAS Rules for the Classification of Offshore Units

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

*This certificate is a renewal of certificate N° 06823/E0 BV expiring on 04/10/2022*

**This certificate will expire on: 04 Oct 2027**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 23 Aug 2022,

Adama Diene

***This certificate was created electronically and is valid without signature***



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 Marine & Offshore. 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 available on the internet site [www.veristar.com](http://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 Marine & Offshore 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.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION

**ELAFLEX rubber expansion joints, yellow steel, type: ERV-GS / ERV-GS HNBR**

1.1 Ratings:

Size range	DN 25 to DN 400		DN 450 to DN 600	
Max. working pressure [bar]	16	10	10	6
Max. working temperature [°C]	60	90 / 100	60	90 / 100

Maximum working temperature: +90°C (ERV-GS) / +100°C (ERV-GS HNBR)

1.2 Materials:

<b>Inner tube</b>	NBR (nitrile) / HNBR (special nitrile)
<b>Reinforcement</b>	Steel wire cord, CR rubberised
<b>Cover</b>	Chloroprene CR (neoprene)
<b>Swivel flanges</b>	Stainless steel, Carbon steel, zinc plated or hot galvanised, gun metal*

\* Gun metal is not to be used in fuel oil systems, except for class III pipes of a diameter not exceeding 25 mm not passing through fuel oil tanks.

### 2. DOCUMENTS AND DRAWINGS

According to following documents:

Drawing No.	Rev.	Designation
Catalogue page 427 - 428	6.2022	RUBBER EXPANSION JOINTS ERV-GS
Catalogue page 431 - 432	6.2022	RUBBER EXPANSION JOINTS ERV-GS HNBR

### 3. TEST REPORTS

Type approval based on the following type tests:

- 3.1 Fire test reports according to ISO 15440 issued by WTD 71 dated 02.11.2005.
- 3.2 Impulse test reports according to DIN EN ISO 6803 issued by TÜV-SÜD dated 30.01.2006 and by CONTINENTAL CONTITECH dated 11.04.2011.
- 3.3 Flame resistance tests according to DIN EN ISO 15540, Test Report No. IBB 472 dated 27.08.2009.
- 3.4 Burst pressure test report dated 02.02.2012 issued by CONTINENTAL CONTITECH.

### 4. APPLICATION / LIMITATION

- 4.1 May be used for the following services on board:
  - Sea water \*, fuel oil, lubricating oil and other flammable liquids (only fire type DN 25 to DN 400, 10 bar max),
  - Fresh water, bilge, closed sanitary lines without connection to the ship's side, non-essential pipe systems.
 \* Where fitted in fire fighting lines, larger sizes may be accepted up to DN 600 outside machinery spaces and provided agreement of the flag authorities of the ship.
- 4.2 In all cases, the associated pipes are to be suitably aligned, supported and anchored. The joints are to be at any time accessible, well visible and protected against over extension and compression and against mechanical damage.

4.3 On board installation and maintenance requirements have to be in accordance with the Society's Rules requirements and the manufacturer's recommendations.

## **5. PRODUCTION SURVEY REQUIREMENTS**

- 5.1 The expansion joints are to be supplied by **ELAFLEX HIBY GmbH & Co. KG** in compliance with the type and requirements described in this certificate.
- 5.2 This type of product is within the category IBV of BV Rule Note NR320.
- 5.3 BV product certificate is required.
- 5.4 Each rubber expansion joint with end fittings is to be hydraulically pressure tested according to BUREAU VERITAS Rules and provided with the manufacturer's pressure test report and conformity of production.
- 5.5 For information, **ELAFLEX HIBY GmbH & Co. KG** has declared to BUREAU VERITAS the following production site:  
**ELAFLEX HIBY GmbH & Co. KG, Hamburg / GERMANY**

## **6. MARKING OF PRODUCT**

Each expansion joint is to be clearly marked to avoid any wrong utilization with at least:

- Manufacturer's name or trademark
- Date of manufacture (month/year)
- Designation type reference or coloured band
- Nominal diameter
- Pressure rating
- Society's brand as relevant

## **7. OTHERS**

- 7.1 It is **ELAFLEX HIBY GmbH & Co. KG**'s responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.
- 7.2 This certificate supersedes the Type Approval Certificate N° 06823/E0 BV issued on 22 Sept 2017 by the Society.

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