



中国船级社  
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.  
HB20PTB00059

型式认可证书  
CERTIFICATE OF TYPE APPROVAL

兹证明本证书所述制造厂具备按照下列标准的要求生产本证书所列产品的能力和条件。

This is to certify that the manufacturer stated in the certificate meets the requirements of the standards listed below and is available with the ability and conditions to produce the products described in the certificate.

制造厂/Manufacturer

ELAFLEX HIBY GmbH & Co. KG

地址/Address

Schnackenburgallee 121, Hamburg, Germany

产品名称/Product

管系附件  
Piping Fitting  
膨胀节  
Expansion Joint

认可标准/Approval Standard

1. 中国船级社《钢质海船入级规范》（2018）及其修改通报第3篇第2章  
Chapter 2, Part Three of China Classification Society Rules for Classification of Sea-Going Steel Ships 2018 and its Amendments

用于/Intended for

船舶与海上设施/Ships and Offshore Installations

产品明细/Product Description

膨胀节/Expansion Joint (M0001)

名称/Name	属性(值)/Value	单位/Unit
产品名称/Product Name	Expansion Joint	
型号/Type	ERV-CR, ERV-G, ERV-R, ERV-GS and ERV-GS HNBR	
规格/Specification	DN25, 32, 40, 50, 65, 80, 100, 125, 150, 200, 250, 300, 350, 400, 450, 500, 600, 700, 800, 900, 1000	mm
公称压力/Nominal Pressure	1.6, 1.0 (DN700-1000: 1.0; ERV-GS, ERV-GS HNBR, DN350 and above: 1.0)	MPa

证书有效期至/This Certificate is valid until 2024年08月20日/Aug. 20,2024

发证机构/Issued by 中国船级社汉堡分社  
CCS Hamburg Branch

签发日期/Date 2020年10月15日  
Oct. 15, 2020

本证书根据中国船级社规范和相关规定签发。所有证书页为一个整体，必须同时使用。纸质证书每页均须由本社盖章方为有效，电子证书含数字签名方为有效，本证书复印件无效。任何单位和个人均不应摘录或节选本证书的部分内容。有关方对所持证书的真实性有疑问时，可以向本社检验机构咨询。This Certificate is issued pursuant to the Rules of the Society and related regulation. All pages of the certificate are taken as a whole and are used simultaneously. No paper certificate page is valid without bearing the stamp of the Society, no electronic certificates is valid without the digital signature, and no copied form of the certificate is regarded as valid. Any part of the certificate is not to be extracted or abridged by any unit or individual in any form. Related parties who are doubted about the authenticity of the certificate may inquire of the Society or its offices.



Form No: T01.

联系方式/Contact Us, 见本社官方网站/See official web site of the Society (<http://www.ccs.org.cn>)

UTN:P020-09420739

**批准的图纸/Approved Drawings**

图纸批准号/ Drawings Approval No. : HB16A00022

**产品认可试验报告/ Approval Test Report**

试验报告编号/ Test Report No. : PRESSURE-TEST  
 试验报告日期/ Test Report Date : 2008-08-12  
 试验单位/ Laboratory: Elaflex-Gummi Ehlers GmbH  
 试验单位地址/ Test Address: Schnackenburgallee 121, D-22525 Hamburg, Germany

试验报告编号/ Test Report No. : WTD71-51514 Fire Resistant Test  
 试验报告日期/ Test Report Date : 2005-11-02  
 试验单位/ Laboratory: Wehr Technische Dienststelle Fur Schiffe und Marinewaffen  
 试验单位地址/ Test Address: Berliner Strasse 115, D-24340, Eckernforde, Germany

试验报告编号/ Test Report No. : 70951 Pressure Impulse Test  
 试验报告日期/ Test Report Date : 2006-01-30  
 试验单位/ Laboratory: Tuev Automotive GmbH  
 试验单位地址/ Test Address: EC-Ingolstadt Lilienthalstrasse 4 85080,Gaimersheim, Germany

试验报告编号/ Test Report No. : 16304 / Wicke  
 试验报告日期/ Test Report Date : 2012-02-02  
 试验单位/ Laboratory: Continental Contitech  
 试验单位地址/ Test Address: Philipsbornstr. 1, D-30165 Hannover, Germany

试验报告编号/ Test Report No. : 1BB472  
 试验报告日期/ Test Report Date : 2009-08-27  
 试验单位/ Laboratory: Dr. -Ing. T. Baumer GmbH  
 试验单位地址/ Test Address: Altensenner Weg 75, D-32052 Herford, Germany

试验报告编号/ Test Report No. : Test order 11W10021  
 试验报告日期/ Test Report Date : 2011-04-11  
 试验单位/ Laboratory: Continental Contitech  
 试验单位地址/ Test Address: Philipsbornstr. 1, D-30165 Hannover, Germany

**认可后的产品检验方式/ Method of Product Inspection after Approval**

按规范认可后应进行产品检验的产品/The product should be inspected in term of the rules:  
 认可后的产品检验应由本社验船师根据本社规范规定按批准的产品检验计划进行检验，经检验合格后由本社颁发船用产品证书。

After approval, product inspection should be carried out by the Surveyor of the Society in accordance with the approved product inspection scheme, and the Marine Product Certificate will be issued by the Society upon satisfactory inspection.

**认可保持条件/ Maintenance Requirements of Approval**

1. 型式认可后，如果产品及其重要零部件的设计、所用材料或制造方法有所改变，且影响到产品的主要特性、特征；或产品的性能指标有所更改，且超过认可的范围，则有关图纸和文件应经检验机构审批。并在检验机构认为必要时，经本社检验人员见证有关试验和进行检查，其结果应能证实仍符合认可条件。

After type approval, if there are changes to the design, materials used or manufacturing method of the product and important components and such changes affect major characteristics and properties of the product, or property indexes of the product are changed and exceed the scope of approval, related drawings and documents are to be examined and approved by the concerned survey office. Where deemed necessary by the survey office, the surveyor to the Society will go to witness relevant tests and conduct inspection and the results should be able to demonstrate compliance with the approval conditions.

2. 工厂的质量管理体系应保持有效运行，并且与认可时一致。如果质量管理体系发生改变，应经原体系认证机构审核并报本社批准。

The quality management system of the factory shall be ensure effective operation, and shall be the same as the situation of approval. If there are any changes to the quality management system, auditing of the original certification organization for quality management system and the society's approval shall be obtained.

3. 认可证书有效期内，如果出现可能导致本社取消认可的情况，工厂应及时采取有效的纠正措施。

Within the validity of the approval certificate, if cases occur that may cause the Society to

withdraw the approval, the manufacturer should take corrective actions in a prompt and effective manner.

4. 在认可证书有效期内，本社检验人员可在未经事先通知的情况下对工厂的产品制造过程进行审核，以验证产品的生产是否符合业经本社批准的图纸和文件。工厂应予以配合。

Within the validity of the approval certificate, the surveyor to the Society may pay unannounced audit to the manufacturing process of the product in order to confirm whether it is in compliance with the drawings and documents approved by the Society. The factory should provide an active cooperation and necessary for the surveyor.

5. 如果属于获得型式认可B 模式证书，且无需颁发船用产品证书/等效证明文件的情况，证书获得者应接受本社每年一次的定期审核，定期审核日为认可证书期满之日对应的每一周年日，检查工作应在周年日的前后三个月内进行。

If belong to the situation of the product has type approval mode B certificate, and marine product certificate/equivalent document is not necessary, those who have obtained the certificate should be subject to periodical audit every year. The date of periodical audit shall be each anniversary date which corresponds to the date of expiry of the relevant certificate and the periodical audit shall be done within a time span of three months before and after the annual surveillance date.

## 备注/Remarks

本社已审核了产品厂无石棉声明，但本社的审核不免除产品厂按照合同关系向订货方保证产品无石棉的责任。

The declaration of asbestos-free submitted by manufacturer has been reviewed by the Society. However, liability of the manufacturer to guarantee the products are asbestos-free to purchaser under contract will not be exempted.

本证书由原型式认可证书 (No. HB16T00042) 变更并换新。

This certificate is modified and renewed from the previous Type Approval Certificate No. HB16T00042.

Conditions of product used for:

1. Where fitted in sea water lines in machinery compartments, guards arc to be provided which will effectively enclose, but not interfere with the action of the rubber compensators and which will reduce to the min. practicable any flow of water in case failure of the flexible element.
2. The rubber compensators arc to be installed in wo.ll visib.le and accessible locations and protected against over extension and compression and against mechanical damage. The adjoining pipes are to be suitably alisned, supported, guided and anchored.
3. Rubber compensators shall not used on the ship's side shell or in permanently pressurized starting airlines of diesel engines.
4. The rubber compensators shall be not used in the water piping line in oil tanks; also not used in the oil piping line which penetrating engine room, cargo tanks, cargo holds or baJlast water tanks while the compensator located in these places, (the term of line penetrating means the line only passes through the space and not intended for any use in this space).
5. For the definition of class of the piping line, please refer to Rules for Classification of Sea-going Steel Ships 2018 as amended of the Society.

**中国船级社汉堡分社**

**CCS Hamburg Branch**

注：本证书含有附页，共1页

Note: The certificate is attached with additional 1 page(s)

## Product Characters

Type	Applicable Medium	Max. Permitted Temp(°C)	Lining Material	Standard Flange Material Others are allowable
ERV-CR	Water Lub oil or grease Compressed air <b>Not for drinking water</b>	90	Chloroprene CR, black, not electrically conductive	Swiveling, carbon steel, stainless steel, hot galvanized and zinc plated steel
ERV-G	Petrol based products Cooling water	90	NBR(nitrile), seamless electrically conductive	Swiveling, carbon steel, stainless steel, hot galvanized and zinc plated steel
CRV-GS	Cooling water Lub. Oil, Diesel oil, Petroleum based products	90	NBR(nitrile), seamless electrically conductive	Swiveling, carbon steel, stainless steel, hot galvanized and zinc plated steel
ERV-GS HNBR	Cooling water Lub. Oil, Diesel Oil, Petroleum based products	100	NBR(nitrile), seamless electrically conductive	Swiveling, carbon steel, stainless steel, hot galvanized and zinc plated steel
ERV-R	Water Chemicals, acids and alkalis, salt solutions, technical alcohols, esters and ketones <b>Not for all kinds of mineral oil products</b>	100	Butyl/EPDM compound, low permeable, electrically dissipative	Swiveling, carbon steel, stainless steel, hot galvanized and zinc plated steel

Remark

1. For the type of ERV-GS and ERV-GS HNBR, water medium, up to max.60°C, MAWP 16bar; up to 100°C MAWP 10bar; petrol based products, up to max.60°C, MAWP 16bar, up to max.90°C, MAWP 10bar

2.Only ERV-GS and ERV-GS HNBR are of flame resistant rubber compensator type