

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the Materials other than steel for pipes conveying oil or fuel oil: flexible pipe assemblies

with type designation(s)
Type AS / RS

Issued to

STENFLEX Rudolf Stender GmbH
Norderstedt Schleswig-Holstein, Germany

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2017/306**,
item No. MED/3.15c. SOLAS 74 as amended, Regulation II-2/4 & X/3 and 2000 HSC Code 7 & 10 and IMO MSC/Circ.1120

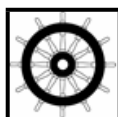
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2022-03-23**.

Issued at **Hamburg** on **2017-03-24**

DNV GL local station:
Hamburg

Approval Engineer:
Peter Gierhan



Notified Body
No.: **0098**

for **DNV GL SE**

Sven Dudzus
Head of Notified Body

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV GL SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled. Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.



Product description

Spherical shaped rubber compensators equipped with loose flanges of carbon steel 1.0038 material. The connection between flanges and the rubber is wire reinforced, and forms a raised face of rubber on the flange.

Type		Reinforcement	Liner	Marking ring	Cover	Flanges	
AS, RS	Flame resistant	Steel Wire	NBR	Red	CR	Special design with profil machining to bear the bellow	Materials 1.0038, 1.4541, 1.4571

Design

Type	Description
AS-1	Standard design for axial, lateral and angular movement
AS-2	DN ≤ 150: Tie rods carried on rubber sockets. DN ≥ 175 : Tie rods carried on spherical washers
AS-3	Suitable for angular systems to take up large pipe expansion
AS-4	As type A-2, special restraints to prevent compression
RS-1	Standard design for axial, lateral and angular movements. Length 130 mm.
RS-2	Unit with tie bars for lateral movements. See A-2 above. Length 130 mm.
RS-0	Rubber bellows only. Length 130 mm

Application

Type	Temperature range	Maximum working pressure	Sizes
AS-1; AS-2; AS-3; AS-4	Up to + 100°C	10bar, ANSI 150lbs	DN25, 32, 40, 50, 65, 80, 100, 125, 150, 200, 250, 300, 350, 400
RS-0; RS-1; RS-2			DN25, 32, 40, 50, 65, 80, 100, 125, 150, 200, 250, 300

Limitation

The compensators shall be installed at visible and accessible positions.

The compensators shall be limited to a quantity necessary to provide relative movement between fixed and flexibly mounted items of machinery/equipment or systems.



Job Id: **344.1-006371-1**
Certificate No: **MEDB000021V**

Type Examination documentation

Tests carried out

Fire resistance tests performed on AS and RS type compensators according to ISO 15540/41:2001.

Marking of product

For traceability to this type approval, the compensators are to be marked with:

- Manufacturer's trade mark.
- Type designation
- Size
- Max. working pressure

End of certificate