

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB0000BF0
Revision no.:
0

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV 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 and compensators**

with type designation(s)
TFW and TFS

issued to

HANSA-FLEX AG
Bremen, Germany

is found to comply with the Implementing Regulation (EU) 2025/1533 for
Item no. **MED/3.15c (Row 1 of 1)**
according to the following requirements:

SOLAS 74 Reg. II-2/4, IMO Res. MSC.36(63)-(1994 HSC Code) 7, IMO Res. MSC.36(63)-(1994 HSC Code) 10, IMO Res. MSC.97(73)-(2000 HSC Code) 7, IMO Res. MSC.97(73)-(2000 HSC Code) 10, IMO MSC/Circ.1120, SOLAS 74 Reg. X/3

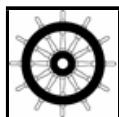
Further details of the equipment and conditions for certification are given overleaf.

Date of issue: **2025-10-14**

Expiry date: **2030-10-13**

DNV local unit:
Hamburg – CMC North/East

Approval Engineer:
Christof Kotzmann-Bendrien



Notified Body
no.: **0098**

for **DNV SE**

Christine Mydlak-Röder
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 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description

Tape wrapped convoluted and with helically corrugated multilayer PTFE hose assemblies, reinforced with fiberglass covering, stainless steel wire braiding, assembled with Hansa-Flex hose end fittings.

TFW: multilayer white PTFE

TFS: same as TFW, inner layer with 2-3% Carbon, electrically conductive

Optional with additional heat protection hose type FBSB and/or

Abraison / splash protection hose type TGFISO

Application/Limitation

Materials other than steel for pipes conveying oil or fuel oil (flexible pipe assemblies and compensators)

Conduction of pressurized media, suitable for PTFE.

Please see Appendix: Application/Limitation

Type Examination documentation

Tests carried out

Fire resistance tests according to ISO 15540 / 15541: 2016 (wet test condition).

Marking of product

For traceability to this certificate each hose assembly is to be permanently marked on the hose and or on the hose end fitting at least with:

Please see Appendix: Marking of product

APPENDIX

Application/Limitation

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Standard application:

Sizes and nominal pressure PN

TFW/TFS	010	013	016	020	025	032	040	050	065	080
PN (bar)	125	105	100	90	80	64	53	35	25	20

Operating temperature range: -20°C to max. 205°C

For service temperature above +50°C the pressure reduction factors specified by Hansa-Flex AG are to be observed.

For further size, dimension and /or other application see respective DNV class type approval.

APPENDIX

Marking of product

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Scope	Example
Manufacturer's short sign- production place / Production date	HF-1330 / 09/2025
M.A.W.P. / T.P.	100 bar / 150 bar
Mark of Conformity*) according to Article 10 of the Council Directive (MED)	 0098/2025

*) may only be affixed to the type approved equipment, if the associated production-surveillance module (D, E or F) is valid.