

DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. P-13831

This is to certify that the Miscellaneous Fittings for Pressurised Equipment

> with type designation(s) MAREFLEX MF-01, AntiSpray Tape

> > Manufactured by

MAREFLEX GmbH HAMBURG, Germany

is found to comply with Det Norske Veritas' Rules for Classification of Ships

Application

Screening of pipe joints and fittings in accordance with IMO SOLAS Consolidated Edition, 2009, Chapter II-2/ Regulation 4, item 2.2.5.3

Temperature range:

Max. 150 degr.C Fluid Temp.

Design pressure:

For use with piping of maximum 15 bar internal pressure.

Operating media:

For use with pipe flanges and fittings in systems for fuel oil, lube oil and other flammable oils.

Høvik, 2011-06-24 for Det Norske Veritas AS

Øivin Lorentzen

Head of Section

DNV local office: Gdansk

Tom Bjørn Hansen Principal Surveyor

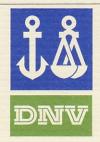
This Certificate is valid until

2015-06-30

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.

DET NORSKE VERITAS AS, Veritasveien 1, NO-1322 Høvik, Norway, Tel.: +47 67 57 99 00, Fax: +47 67 57 99 11, Org.No. NO 945 748 931 MVA www.dnv.com Page 1 of 3 Form No.: TA 1411a Issue: October 2009



Certificate No.: P-13831 File No.: 746.90

Job ld.: 262.1-008678-2

Manufacturer/ Place of Production;

A-SPE Polska, 82-300 Elblag, Poland

Product description

For use in engine rooms or other enclosed spaces as wrapping around possible sources of leakage in fuel oil piping to help prevent fuel spray in event of a leak, as a means of meeting the requirements of the IMO SOLAS, Chpt. II-2, Reg.4, 2.2.5.3.

Reference is also made to IMO FTP Code - IMO Resolution MSC.61(67)

Mareflex MF-01 Antispray Tape;

Product code	Width (mm) x Length (m)
MF01-35	35 x 10
MF01-50	50 x 10
MF01-75	75 x 10
MF01-100	100 x 10
MF01-140	140 x 10
MF01-250	250 x 10
MF01-500	500 x 10

Mareflex MF-01 Antispray Tape is a multilayer aluminium/ fiberglass fabric/ release liner with a special adhesive for installation.

Application/Limitation

The extent of use is limited to spray shielding applications on oil pressure pipes located above the floor plates and which have no insulation in way of the joints. Use is also restricted to readily accessible positions where the integrity of the application may be inspected regularly, and new covering will be applied after removal for maintenance purposes.

The fitting of Mareflex MF-01 Antispray Tape is to be carried out in accordance with the Manufacturer's instructions.

The Mareflex MF-01 Antispray Tape cannot be used for pipes insulation, or as replacement for pipe gaskets and sealings.

Type Approval documentation

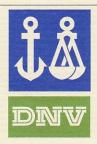
- Technical Specifications and Installation Instructions for Mareflex MF-01 Antispray Tape
- Installation Instruction, Ver. 2.01
- Specification for adhesive

Tests carried out

- Szczecin University of Technology, ref.TZ/FTP-5/101/2006, dated 06-03-2006, Test Report of the Results of Test for the Flame Spread on Floor Coverings, ref. IMO FTP Code – IMO Res. MSC.61(67).
- The Institute of Technical Textiles "MORATEX", Test Report No. 43/2004, dated 2006-04-28, Tensile Strenght Test and Coating Adhesion Test.
- A-SPE, Pressure Test Report of Mareflex MF-01 Antispray Tape, November 2006.
- Institute of Security Technology "MORATEX", Test Report No. 252/2009, dated 13.08.2009, Coating Adhesion Test.
- West Pomeranian University of Technology, Szczecin, ref.TZ/FTP-5/207/2009, dated 11-09-2009, Test Report of the Results of Test for the Surface Flammability of Materials, ref. IMO FTP Code IMO Res. MSC.61(67).



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Marking of product

-Manufacturer's Name & Product Type.

Certificate Retention Survey

For retention of the Type Approval, DNV Surveyor shall perform a survey every second year, to verify that the conditions for the type approval are complied with and to witness testing on samples of tape/ sheet taken at random from stock.

This certificate replaces previous Type Approval Certificate No. P-13292.



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