DNV·GL

Certificate No:
MEDB00006W3

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Authority. This Certificate is issued by DNV GL AS under the authority of the Government of Norway.

This is to certify:

That the Penetrations through "A" class divisions: electric cable transits

with type designation(s)
Marine Flex System (180) Cable

Issued to
FireSeal AB
Kista, Stockholms Län, Sweden

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2020/1170,**
item No. MED/3.26a. SOLAS 74 as amended, Regulation II-2/9, IMO 2010 FTP Code and IMO MSC.1/1488

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

This Certificate is valid until **2025-11-03**.
Issued at **Høvik** on **2020-11-04**

DNV GL local station:
Sweden CMC

Approval Engineer:
Marcin Tobiasz

Notified Body
No.: **0575**

for **DNV GL AS**

Roald Vårheim
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005, and amended by Decision No 1/2019 dated February 22nd, 2019.

NORWEGIAN ACCREDITATION PROD 019

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 AS 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

"Marine Flex System (180) Cable"
composed of a minimum 180 mm long, rectangular/circular steel sleeve welded to the deck or bulkhead. The void between cables and the sleeve is filled with calcium silicate blankets of type "Marine Blanket", nominal density 96 kg/m^3, compressed density approximately 161 - 240 kg/m^3. A 15 mm thick layer of "Marine Flex" is applied outside the blankets on both sides of the sleeve, flush with the ends of the sleeve.

Type	Cross sectional size of sleeve	Thickness of sleeve	Filling range [% of cross sectional area]
Rectangular	100x100 – 700x300 mm	Min. 4,5 – 3,0 mm	0-40 % for single cables and/or cable bundles with max. diameter 150mm
Circular	Ø48 - Ø250 mm	Min. 3,0 mm	0-40 % for single cables and/or cable bundles with max. diameter 150 mm

For further details see drawings under Type Examination documentation below.

Application/Limitation

Approved for use as cable penetration system in class A-0 steel bulkheads/decks. Other applications are subject to case-by-case approval."

No more than 40% of the inside cross-sectional area of each transit should be occupied by cables.

Minimum distance between cables/bundle and minimum distance from sleeve to cable/bundle is 5 mm.

Watertightness and gastightness is not covered in this certificate.

The penetration system shall not be used for penetrating boundaries of tanks.

Each product is to be supplied with its manual for installation and maintenance.

Type Examination documentation

Test Report No. 103070.69A, dated 2014-01-27 from SINTEF NBL, Trondheim, Norway. (deck)
Test Report No. 103070.69B, dated 2014-01-27, from SINTEF NBL, Trondheim, Norway. (bulkhead)
Test Report No. 103070.73, dated 2014-08-12, from SP Fire Research AS, Trondheim, Norway. (bulkhead)
Assessment Reports No. 103070.73-2, dated 2014-08-12 and No. 103205.30, dated 2014-04-10 and No. 150101-7 dated 2015-08-28, all from SP Fire Research AS, Trondheim, Norway.

Drawing No. FS-TP2005-02 dated 2020-05-07 from FireSeal.

Tests carried out

Tested according to IMO 2010 FTP Code part 3.

Marking of product

The product or packing is to be marked with name and address of manufacturer, type designation, fire technical rating, MED Mark of Conformity and USCG approval number if applicable (see first page).