

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00005DJ
Revision No:
6

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 AS under the authority of the Government of Norway.

This is to certify:

That the Marine evacuation systems

with type designation(s)
Viking Evacuation Slide, VES-DD

Issued to
Viking Life-Saving Equipment A/S
Esbjerg V, Denmark

is found to comply with the requirements in the following Regulations/Standards:
Regulation (EU) 2022/1157,
item No. MED/1.27. SOLAS 74 as amended, Reg. III/4, III/15, III/26, III/34 & X/3, LSA Code and 2000 HSC Code 8.

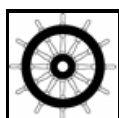
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2025-03-06**.

Issued at **Høvik** on **2023-07-15**

DNV local unit:
Denmark CMC

Approval Engineer:
Tessa Bieber



Notified Body
No.: **0575**

for **DNV AS**

Sverre Olav Bergli
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.



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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

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 300,000 USD.



Product description

VES-DD MES,
 is a Marine Evacuation System with dual track inclined inflatable slide, fitted with inflatable platform with the following four (4) type designations:

1. VES-DD 3.3: Steel Box, Thanner inflation system and three variants; Free on deck, standard and low coarning.
2. VES-DD 4.1: Steel Box, Leaffield inflation system and three variants; Free on deck, standard and low coarning.
3. VES-DD-ALU 2: Built in with side hinged door and Thanner inflation system.
4. VES-DD-ALU 4: Built in with side hinged door and Leaffield inflation system.

Slide chamber materials: Conti-Tech NK205/2 and Phoenix Art. 029

Application/Limitation

Max. stowage height and evacuation capacity as follows:

| Available lengths of slide [m] | Max stowage height [m] |
|--|---------------------------------------|
| 25.5 | 15.0 |
| 22.5 | 13.2 |
| 20 | 11.8 |
| 18 | 10.7 |
| 16 | 9.5 |
| 15 | 8.9 |
| 14 | 8.4 |
| 12 | 7.2 |
| Evacuation capacity: | |
| Number of persons, max in 30 min.: | With max 7 pcs. Liferaft units*: 657 |
| Number of persons, max in 17 min, 40 sec.: | With max 4 pcs. Liferaft units**: 386 |
| Platform: | |
| Diameter of platform: | 8 m |

* If additional liferafts will be used beside the 7 units, the evacuation capacity of the total number of persons within 30 minutes will be reduced by 34 persons for each additional liferaft.

** If additional liferafts will be used beside the 4 units, the evacuation capacity of the total number of persons within 17 minutes and 40 seconds will be reduced by 34 persons for each additional liferaft.

The associated liferafts shall have separate MED Approval and bear the MED Mark of Conformity.

Accepted with 100 DKS or 100 DKR as main dropdown liferafts and one of Viking 25 DKR, 25 DKS, 39 DKS, 39 DKS, 50 DKR or 50 DKS dropdown liferafts.

Gas cylinders and components in the pressure gas systems shall be of an approved type.

Components in the gas inflation system for the inflatable slide shall be approved according to ISO 15738:2019 or equivalent standard.

The on-board arrangements and installation of this MES is not part of the design appraisal or certificate and to be of the satisfaction of the Flag Administration.

The following is to be submitted to the Flag Administration in each case, either by the yard, owner or equipment manufacturer:

- Plan showing the MES system fully deployed on the specific vessel in side-view and cross-sectional view under required unfavourable conditions of trim and list as the type approval does not cover the requirements to installation covered by LSA Code Ch. 6.2.2.1.4 and SOLAS Ch. III. Details shall be shown.
- Plan showing the arrangement of the MES on board any vessel, including the passageway and embarkation areas, to ensure that the flow rate as stated above can be maintained throughout the total evacuation of the number of persons for which the MES is certified for.

It shall be verified that the ship on which the MES is installed is equipped with a sufficient number of rescue boats or lifeboats to satisfactory marshal and support the bowing and tow away, as applicable, of all the associated life rafts within the times allowed for embarkation as per SOLAS Reg. III/21.1.3 and 31.1.5.

Installation tests to be carried out in accordance with IMO Res. MSC.81(70) part 2, item 7 and to be documented by the manufacturer. This does not preclude any further testing to additional requirements of the Flag Administration or those acting on their behalf.

Inflatable components or sections of the marine evacuation systems are to be service at intervals not exceeding twelve months by a person suitably qualified and authorized by the manufacturer.

Any electrical, pressurized, and hydraulic components are only assessed as integrated parts of the VES-DD but are not assessed individually. The electrical, pressurized, and hydraulic components shall be designed to codes of practice to the satisfaction of the Flag Administration having regards to their locations and maximum ambient temperatures expected in service.

A full set of manuals and associated documents are to be provided onboard for use on all operations involved in the inspections, maintenance and resetting of the MES and associated equipment.

Type Examination documentation

This certificate replaces MEDB00005DJ Rev.4 (Rev.5 does not exist).

| Technical documentation | Date |
|---|---------------|
| Viking technical documentation "Conformity Assessment Report EU Marine Directive MES Type: VES-DD MES 12, 14, 15, 16, 18, 20, 22,5 and 25,5", Doc. No.: FORM.KE 070 udgave 1 and referred drawings and test reports. | 1999-02-18 |
| Viking technical documentation "Materials and Article Specification for MES and Liferrafts", Doc. No.: FORM.KE 071 udgave 1 | 1999-02-18 |
| Viking Drawings for EU Approval DD-MES", Doc. No. FORM.KE 072, udgave 1 | 1999-02-18 |
| Report on Heavy Weather Sea Trial by MCA, MS 3/67/011, DOC123 | 1995-03-10 |
| Report on Seatrial by DMA, J.No. 5611.1293-11 | 1996-03-13 |
| Certificate of heavy weather test by RINA, No. 96-CPN 394 | 1996-03-20 |
| Documentation for renewal of certificate, referred in DNV letter | 2004-12-22 |
| Tests carried out, witnessed and accepted by IMA. | 2000-10-17 |
| Prototype test (rapport nr. 952), witnessed by DNV | 2007-11-27 |
| Design changes | Date |
| DC10437 + DC10439 - use of alternative hardener 'Beyond' + supporting documentation. Test report Nos.: - 2905, 2914, 2915 (3x over pressure test) - 2920 (davit launched strength test) - 2880, 2881, 2882, 2883, 2884, 2885 (seam strength tests) Viking report: Comparison of strength in existing and alternative hardener | 2018-12-10/11 |
| DC10438 - Alternative hardener 'TM-93' + supporting test reports: - 2868, 2869, 2870, 2871, 2872, 2873, 2876, 2877, 2878 (seam strength tests) - 2988, 2989, 2990 (3 x overpressure tests) - 3017, 3019 (davit launched strength tests) | 2019-04-23 |
| DC10446 – use of alternative hardener for MES system liferafts and slides – TM-93 + supporting documentation: - Report – Strength of 'TM-93' - Design review – Use of 'Beyond' | 2019-03-19 |
| DC10447 (extension of DC 10437, DC10438, DC10439, DC 10446)– Alternative hardener on patches for all liferaft and slide production – 'Beyond' and 'TM-93'+ supporting documentation: - Report – Strength of 'Beyond' - Report – Strength of 'TM-93' - Report – Use of Alternative hardener on MES patches - Design review – Use of 'Beyond' | 2019-03-19 |
| DC10482 (39DKS as drop down liferaft) - Risk analysis (D-FMEA) version 1 dated 2020-10-21 Drawing nos.: - 43002560.001/002/003 dated 2019-04-04 | 2020-10-21 |
| DC10517 (39DKSN as drop down liferaft) | 2022-04-08 |

