

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB000010T
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 Liferaft System with SOLAS Mini Slide VELs + SMS

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) 2021/1158,

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.

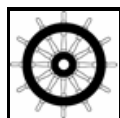
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2026-01-17**.

Issued at **Høvik** on **2022-06-27**

DNV local station:
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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

“Viking Evacuation Liferaft System with SOLAS Mini Slide VELs + SMS”

Marine Evacuation System consisting of inflatable slide and automatically self-righting liferaft (DKS) or open reversible liferaft (DKR) restrained by bowing system. This MES in combination with open reversible rafts is intended for installation on high-speed vessels trading in sheltered waters and suitable climatic conditions.

| | |
|--|---|
| Length of slides integrated with 1 x 150 DKS | 3.3 m, 4.5 m, 5.5 m, 6.5 m |
| Length of slides integrated with 1 x 150 DKR | 3.3 m, 4.5 m, 5.5 m, 6.5 m |
| Max. number of persons | 501 |
| Max. stowage height of liferaft | 18 m |
| Slide chamber materials | Conti-Tech NK205/2 and Phoenix Art. 029 |
| Max weight of system with SOLAS B-pack | 882 kg |
| Integrated liferaft SOLAS version | 1 x Viking 150 DKS VELs 1.1 |
| Integrated liferaft HSC version | 1 x Viking 150 DKR+ VELs 2.1 |
| Associated liferafts SOLAS version | Viking 150, 100, 50 or 25 DKS |
| Associated liferafts HSC version | Viking 150, 100 or 50 DKR+ |
| Container material | GRP |

Application/Limitation

The system is approved for evacuation heights of:

- 1.5 – 2.4 metres (3.3 m slide)
- 2.5 – 3.1 metres (4.5 m slide)
- 3.2 – 3.7 metres (5.5 m slide)
- 3.7 – 4.2 metres (6.5 m slide)

For the shortest slides the minimum angle of 30° is not met for the lowest evacuation heights. Each installation is subject to acceptance by the flag Administration.

Associated liferafts shall have separate MED Approval and bear the MED Mark of Conformity (wheelmark).

Open reversible liferafts shall be accepted by Flag.

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

Components in the gas inflation system should be approved according to ISO 15738:2019.

The arrangement of the MES onboard any vessel, including the passageway and embarkation areas, are subject to approval by the administration 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 lifeboats or rescue boats 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 Ch.III/Reg.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.

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.

| | |
|--|---|
| Evacuation time in general: (139 seconds includes preparation of system and cut free of last liferaft.) | specified evacuation time – 139 seconds |
| | 2,7 seconds/person |
| Example: 10 min => | $(600-139)/2,7 = 170$ persons |

| | |
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| Max. limits on evacuation capacities based on all relevant MES criteria and liferaft sizes. | 102 persons in 7 minutes and 40 seconds 303 persons in 17 minutes and 40 seconds 501 persons in 30 minutes |
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Type Examination documentation

This certificate replaces MEDB000010T Rev.4 (Rev.5 does not exist).

| Drawings | Date |
|--|--|
| Approved technical documentation as listed in DNV letter (ref. technical file 344.1-003582) | 2006-05-05 2012-06-06 |
| Reports | Date |
| Reports from prototype tests as listed in DNV letter (ref. technical file 344.1-003582) | 2006-05-05 |
| Calculation Report VIKING Project 2046, Capacity test | 2002-05-31 |
| Report from HWST (heavy weather seatrial) | 2006-02-10 |
| DHI Wave measurement report | 2006-02-24 |
| Design changes | Date |
| DC10437 + DC10439 - use of alternative hardener 'Beyond' + supporting documentation. Test report Nos. witnessed by DNV GL surveyor: <ul style="list-style-type: none"> - Test report Nos. 2905, 2914, 2915 (3x over pressure test) - Test report Nos. 2880, 2881, 2882, 2883, 2884, 2885 (seam strength tests) - Viking report: Comparison of strength in existing and alternative hardener | 2018-12-10/11 |
| DC10449 – 6.5 m slide with 150 DKS + supporting documentation. <ul style="list-style-type: none"> - Test report No. 3066 (deployment of 6.5 SMS slide in combination with 150 DKS with installation height within range 3.7 - 4.2 m), witnessed by DNV GL surveyor - Drawing no. VEL5_150DKS-SMS_6.5m (based on drawing 42005351.000) | 2019-03-01 2019-03-08 Jan 2019 |
| DC10446 – use of alternative hardener for MES system liferafts and slides – TM-93 + supporting documentation: <ul style="list-style-type: none"> - 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: <ul style="list-style-type: none"> - 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 |
| DC10486 (Increase amount of fixing points for the bowing cord + Dividing of the container edge sealing band) + supporting documents: <ul style="list-style-type: none"> - Test report No. 1475 (free float test) - Test report No. 1688 (free float test) Drawing Nos.: <ul style="list-style-type: none"> - ENG- 20073746 (Container 016-8812 150 DKR SOLAS-B pack VEL5 2.1) - ENG- 20073693 (Container 9104 150 DKS SOLAS-B pack VEL5 1.1) | 2020-12-07 2020-12-03 2020-12-03 |
| DC10487 (Relocation of HRU for bowing arrangement and release of pressure inside the container) + supporting documents: <ul style="list-style-type: none"> - Test report 3426 (harbour deployment test) | 2020-12-07 |
| DC10518 (Change of release trigger system from automatically to manual for VEL5 mother raft DKR and DKS) + supporting documents: <ul style="list-style-type: none"> - Test report No. 4056 (deployment instruction) - Test report No. 4057 (timed evacuation DKR) - Test report No. 4070 (deployment instruction) - Test report No. 4071 (timed evacuation DKS) | 2022-05-23 |



Job Id: **344.1-003582-8**
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Tests carried out

Test documentation in accordance with Recommendation on Testing of Lifesaving Appliances, IMO Res. MSC 81(70), part 1, as reflected in Type Examination Documentation specified above.

Marking

The product is to be indelibly marked with name and address of manufacturer, type designation, dimensions and date of manufacture, the MED Mark of Conformity and USCG Approval Number (see first page). The marking shall be according to LSA Code, item 6.2.4 and 6.2.5.

The HSC approved version shall be marked according to 2000 HSC Code, Annex 11, items 4 and 5.