

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate no.:
MEDB00002Y4
Revision No:
8

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 SBS MES, variants 3.0, 3.1, 4.0, 4.1, 5.0 and 5.1

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) 2023/1667**,

item No. MED/1.27. SOLAS 74 as amended, Reg. III/4, III/15, III/26, III/34 & X/3, LSA Code, 2000 HSC Code 8 and IMO MSC.1/Circ.1632

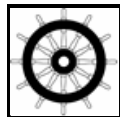
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2027-10-11**.

Issued at **Høvik** on **2024-02-19**

DNV local unit:
Denmark CMC

Approval Engineer:
Tessa Bieber



Notified Body
No.: **0575**

for **DNV AS**

Mydlak-Röder, Christine
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 1/2023 dated August 21st, 2023.

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 SBS MES, variants 3.0, 3.1, 4.0, 4.1, 5.0 and 5.1'

is a Marine Evacuation System where evacuation is done via a 3m, 4m or 5m long inflatable slide directly into a Viking liferaft. See below overview for approved slide/liferaft combinations.

Liferaft type (B-pack)										
Variant	Slide length [m]	Packed in ALU bag	Packed in valise	Evacuation height [m]	50 DKR	50 DKS	100 DKR	100 DKS	150 DKR	150 DKS
3.0	3		x	1,5 – 2,1	x	x	x	x	x	x
4.0	4		x	2,2 – 2,7	x	x	x	x	x	x
5.0	5		x	2,8 – 3,2	x			x	x	x
3.1	3	x	x	1,5 – 2,1	x	x	x	x	x	x
4.1	4	x	x	2,2 – 2,7	x	x	x	x	x	x
5.1	5	x	x	2,8 – 3,2	x			x	x	x

DKR liferafts (without canopy roof) are HSC approved.

DKS liferafts (with canopy roof) are SOLAS B approved.

This MES in combination with open reversible rafts (DKR) is intended for installation on high-speed vessels trading in sheltered waters and suitable climatic conditions.

Application/Limitation

The system is subject to acceptance by the Flag Administration.

The system is approved for the following max. installation heights:

- 3m slide: 2.1 m
- 4m slide: 2.7 m
- 5m slide: 3.2 m

Max. evacuation capacity for Viking SBS MES:

- In combination with 50 DKR: 51 persons in 17 min. 40 sec. according to HSC Code (incl. cut free of liferafts)
- In combination with 100 DKS/DKR: 101 persons in 17 min. 40 sec. according to HSC Code (incl. cut free of liferafts)
- In combination with 150 DKS/DKR: 153 persons in 17 min. 40 sec. according to HSC Code (incl. cut free of liferafts)

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

Open reversible liferafts shall be accepted by Flag.

Gas cylinders 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 arrangement of the MES on board 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 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 Ch.III/Reg.21.1.3 and 31.1.5.

Production and installation testing shall be according to IMO Res. MSC. 81(70), part 2.

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. 6.2.2.1.5, 2000 HSC Code Ch.8 and SOLAS Ch. III. Details shall be shown.

Type Examination documentation

This certificate replaces MEDB00002Y4 Rev.7.

Drawing No.:	Date
42004602.001, Rev. 01 – SBS 150 DKR 3 m slide (General arrangement)	2017-06-28
42004603.001, Rev. 01 – SBS 150 DKS 3 m slide (General arrangement)	2017-06-28
42004604.001, Rev. 01 – SBS 100 DKS 3 m slide (General arrangement)	2017-06-28
42004605.001, Rev. 01 – SBS 100 DKR 3 m slide (General arrangement)	2017-06-28
42004658.000, Rev. 00 – SBS 50 DKR 3 m slide (General arrangement)	2017-09-12
42004606.001, Rev. 01 – SBS 150 DKR 4 m slide (General arrangement)	2017-06-28
42004607.001, Rev. 01 – SBS 150 DKS 4 m slide (General arrangement)	2017-06-28
42004608.001, Rev. 01 – SBS 100 DKS 4 m slide (General arrangement)	2017-06-28
42004609.001, Rev. 01 – SBS 100 DKR 4 m slide (General arrangement)	2017-06-28
42004659.000, Rev. 00 – SBS 50 DKR 4 m slide (General arrangement)	2017-09-12
42004610.001, Rev. 01 – SBS 150 DKR 5 m slide (General arrangement)	2017-06-28
42004611.001, Rev. 01 – SBS 150 DKS 5 m slide (General arrangement)	2017-06-28
42004613.001, Rev. 01 – SBS 100 DKS 5 m slide (General arrangement)	2017-06-28
42004660.000, Rev. 00 – SBS 50 DKR 5 m slide (General arrangement)	2017-09-12
42004614.001, Rev. 01 – SBS 150 DKS stowed	2017-06-28
42004615.001, Rev. 00 – SBS detail drawing	2017-06-28
42004616.000, Rev. 00 – SBS deployment sequence	2017-06-28
42004617.000, Rev. 00 – SBS Float free sequence	2017-06-28
43002511.000, Rev. 01 – SBS 5 m slide embarkation height	2017-06-26
43002512.000, Rev. 00 – SBS 4 m slide embarkation height	2017-06-26
43002513.000, Rev. 00 – SBS 3 m slide embarkation height	2017-06-26
Calculations	Date
42004656, Rev.00 – calculation for clamp (slide connection to the deck)	2017-09-11
42004615.001, Rev.01 – SBS detail drawing	2017-07-04
Test Reports	Date
Prototype test reports LSA Code part 1, § 12.1:	
- Test report No. 2740 (deployment instructions)	2018-03-21
- Test report No. 2741 (deployment instructions)	2018-03-21
- Test report No. 2742 (deployment instructions)	2018-03-21
Prototype test reports LSA Code part 1, § 12.2:	
- Test report No. 2624 (deployment)	2017-06-14
Prototype test reports LSA Code part 1, § 12.3:	
- Test report No. 2619 (fully inflated passage loaded with 150 kg)	2017-07-04
- Test report No. 699 (slide path wear test - 2 x times sliding test)	2006-05-05
- Test report No. 2620 (loss of pressure)	2017-07-04
- Test report No. 2621 (static load test)	2017-07-04
- Test report No. 2626 (-30 degree cold test)	2017-07-04
- Test report No. 2627 (-30 degree cold test)	2017-04-29
- Test report No. 2584 (-30 degree cold test)	2017-04-20
- Test report No. 2615 (+65 degree hot test for 7h)	2017-07-04
- Test report No. 2622 (wet sliding test)	2017-07-04
- Test report No. 2623 (pressure test)	2017-07-04
Prototype test reports LSA Code part 1, § 12.6:	
- Test report No. 2625 (timed evacuation test)	2017-07-04
- Test report No. 2628 (heavy weather sea trail test – phase 1-4)	2017-03-21
Manuals	Date
Training and operation manual, Viking SBS MES	Oct. 2017
Final Assembly and service manual, Viking SBS MES	Sep. 2017
Other	Date
42004575.003, Rev. 00 - Viking SBS MES - used material	2017-09-06
42002697.000, Rev. 00 - Valise details	2011-06-14
Design changes	Date

DC10437 + DC10439 - use of alternative hardener 'Beyond' + supporting documentation. Test report Nos.: - 2905, 2914, 2915 (3x over pressure test) - 2880, 2881, 2882, 2883, 2884, 2885 (seam strength tests) - Viking report: Comparison of strength in existing and alternative hardener	2018-12-10/11
DC10426 – reversed lashing, extra closing bands and central painterline + supporting documentation. Test report Nos.: - 2770, 2771, 2772, 2773: deployment tests - 2777, 2778, 2779, 2780: cold inflation test Drawing Nos.: - 8380373/42004153 Rev. 02 dated 2009-10-12 - 16012422 Rev. 00 dated 2018 -06-21 - 16012423 Rev. 00 dated 2018-06-21 - 42005051 Rev. 00 dated 2018-06-06	2019-01-09
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
DC10462 - new packing procedure for SBS slides + supporting documentation. Test report Nos.: - 3103 (deployment test – slide 4m) - 3261 (deployment test – slide 3m) - 3262 (deployment test – slide 4m) - 3263 (deployment test – slide 5m) - 3270 (static load test) - 3274 (cold inflation test) - 3275 (hot inflation test)	2020-01-14
DC10489 rev.1 – SBS slide 3-4 meter in combination with SBS 50 DKS liferaft) + supporting documentation: Test report Nos.: - 3308 (deployment test 3 m slide) - 3309 (deployment test 4 m slide) Drawing Nos.: - ENG-20084183 (SBS slide 3m with SBS 50 DKS) Rev. 0 - ENG-20084293 (SBS slide 4m with SBS 50 DKS) Rev. 0	2021-02-08
DC10539 – new variant SBS slides packed in packing bag + supporting documentation: Test report No.: - 4623 Drawing Nos.: - ENG-20183503 (packing bag)	2024-01-25

Tests carried out

Test documentation in accordance with recommendation on testing of Lifesaving Appliances, IMO Res. MSC 81(70), part 1 as given by the Technical 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, and 2000 HSC Code, Annex 11, Ch. 4.2 and 5.