

# EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:  
**MEDB000064A**  
Revision No:  
**1**

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 Lifeboats: (a) Davit-launched lifeboats: partially enclosed/totally enclosed**

with type designation(s)  
**Minima-88 MKI**

Issued to

**VIKING NORSAFE LIFE-SAVING EQUIPMENT NORWAY AS**  
**FÆRVIK, Norway**

is found to comply with the requirements in the following Regulations/Standards:

Regulation **(EU) 2019/1397,**

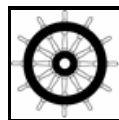
**item No. MED/1.17a. SOLAS 74 as amended, Regulation III/4, III/21, III/31, III/34 & X/3, LSA Code, IMO MSC/Circ. 1006 & 1423, and 2000 HSC Code 8**

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

This Certificate is valid until **2025-06-04.**

Issued at **Høvik** on **2020-06-16**

DNV GL local station:  
**Norway CMC, West**



for **DNV GL AS**

Approval Engineer:  
**Jasna Jovovic-Lainis**

Notified Body  
No.: **0575**

**Roald Vårheim**  
**Head of Notified Body**



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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.



Job Id: **344.1-010016-2**  
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## Product description

"Minima-88 MKI" is a davit launched partially enclosed lifeboat (PELB).

Length, overall (on fender): 8.87 m  
 Length, hull: 8.80 m  
 Breadth, overall: 4.25 m  
 Draft, fully loaded: 0.99 m  
 Height, overall: 3.70 m  
 Weight of boat, fully equipped: 6500 kg  
 Weight of boat, fully manned (75 kg/person): 17750 kg

Hook manufacturer/type: Viking Norsafe Life-saving Equipment Norway AS, Tor MK2-S 9T  
 Hook SWL: 9000 kg

Hull material: GRP

Propulsion system: Inboard engine  
 Engine manufacturer/type: Zhenjiang Siyang Diesel Engine Manufacturing Co.Ltd., N485J-3

Bollard pull: 6.0 kN

### Material specification:

Material	Type	Manufacturer
Polyester resin:	FL-918	Jiangsu Fullmark Chemicals Co., Ltd.
Gelcoat/Topcoat:	Gelcoat RAL 3002 S, red Gelcoat RAL 9010 S, white Topcoat RAL 7035, grey	Ashland (Changzhou) Specialty Chemical Co., Ltd. Jiangsu Fullmark Chemicals Co., Ltd.
Glass fiber:	Chopped strand mat; CSM300, CSM400 and CSM600	Jiangsu Changhai Composite Materials Holding Co., Ltd. Taishan Fiberglass Inc.
	Bi-axial stich combo; EBX800/M100	Taishan Fiberglass Inc. Zhenjiang Hengshi Fiberglass Fabrics Co., Ltd.
	Quadri-axial stich combo; E-QX1150	Zhenjiang Hengshi Fiberglass Fabrics Co., Ltd.
	Woven roving; EWR800	Taishan Fiberglass Inc. Changzhou Tianma Group Co., Ltd.
	Uniaxial glass fiber; UD600	Changzhou Pro-Tech Industry Co., Ltd.
Buoyant material:	Rigid polyurethane foam	Qingdao Lianmei Chemical Co., Ltd. Jiangyin Tongqi Allied Chemical Factory

## Application/Limitation

Approved engine power: 30 kW  
 Maximum number of persons: 150  
 Maximum load of persons (75 kg/person): 11250 kg

Approved colour (Canopy / Hull): Red / White

Lifeboat equipment and marking/instructions to be inspected after installation onboard the ship. Equipment shall comply with LSA Code and IMO Res. MSC.81(70). Portable fire-extinguishing equipment of an approved type suitable for extinguishing oil fires according to LSA Code Ch.4.4.8.28 shall be available.

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The design assessment is based on IMO Res. MSC.48(66) as amended by IMO Res. MSC.207(81), IMO Res. MSC.218(82), IMO Res. MSC.272(85) and IMO Res. MSC.320(89).

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

## Type Examination documentation

Basis for approval:

Prototype test - IMO MSC/Circ.980 dated 2020-04-03, witnessed by DNV GL	REP-1795, Rev.0
Prototype test - Tor MK2-S 9T dated 2015-03-26	REP-0477, Rev.0
Operation and Maintenance Manual for PELB type: Minima-88 MKI with MK2-S release hook	MAN-1373, Rev.0
SOLAS Equipment Conventional lifeboats	MAN-0102, Rev.6

Documentation list:

Title	Rev.	Document No.
<b>Structural construction of the hull</b>		
Main structural arrangement	0	A-505460
Hull, joined	0	A-505781
Canopy, joined	0	A-506183
Hoses installation of hull liner	0	A-505780
Hull lamination	0	S-514292
Canopy lamination	0	S-514312
Hull liner lamination	0	S-514313
Lines plan	0	R-502664
Helmsman bench	2	S-515310
Engine foundation Port side	0	S-517131
Engine foundation Stb side	0	S-517130
<b>Hook/release mechanism</b>		
Release mechanism arrangement, TOR MK2-S 9T	0	A-505424
Aft hook bracket	0	S-514824
Fwd hook bracket	0	S-514825
Axle for connect TOR hook and hook bracket	0	S-508346
TOR MK2-S 9T assembly	4	A-501834
Aft backing plate	1	S-503245
Aft hook backing	2	S-507543
Fwd backing plate	0	S-503249
<b>General arrangement plans</b>		
General arrangement	2	G-501525
Main assembly	0	A-504885
Marking arrangement	3	A-505466
Internal arrangement	0	A-505465
External arrangement	3	A-505464
Electrical arrangement	1	A-505458
Bilge system arrangement	0	A-505453
Skate arrangement	0	A-506628
Painter release hook	1	A-500647
Air flow diagram	0	R-503886

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Helmsman line of sight	0	R-503880
Internal non-skid surfaces	0	R-503881
<b>Seating arrangement</b>		
Seating plan, 150 persons	1	R-502441
<b>Machinery arrangement</b>		
Propulsion arrangement	0	A-505423
Steering arrangement	1	A-505414
Exhaust system, NLDE-4	1	A-505416
Cooling system, NLDE-4	0	A-505418
Engine system, NLDE-4	1	A-505419
Technical specification for Norsafe NLDE-4	1	DS-00245
Fuel system	0	A-505422
Fuel tank 200L Alu.4mm	1	A-506623
Engine Instruction NLDE-4	2	R-500620
<b>Electricity</b>		
Electrical circuit diagram	0	E-504999
<b>Calculations</b>		
Buoyancy calculations	0	R-503628
Hook bracket strength calculation	1	CAL-0819
Hydrostatic and stability calculation	0	CAL-0895
<b>Test reports</b>		
Fire test IMO MSC/Circ.1006 from SCPM, China	0	REP-0669
Laminate strength test from SCPM, China	0	REP-0668

### Tests carried out

Tests are documented in accordance with recommendation on testing of Lifesaving Appliances, IMO Res. MSC.81(70) Part 1, as amended by IMO Res. MSC.226(82), IMO Res. MSC.274(85), IMO Res. MSC.321(89), IMO Res. MSC.323(89) and IMO MSC/Circ.1006.

### Marking of product

The product is to be indelibly marked with name and address of manufacturer, boat model and serial number, month and year of manufacturer, number of persons approved for and operational restrictions, if any, according to LSA code item 4.4.1.2, and bear the MED mark of conformity (see page 1).

List of lifeboat equipment to be posted in the boat.