

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 Rigid rescue boats

with type designation(s)
Matrix-450 MKI

Issued to

Norsafe AS
FÆRVIK, Norway

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

Regulation **(EU) 2018/773**,

item No. MED/1.18. SOLAS 1974 as amended, Reg. III/4, III/21, III/31, III/34 & X/3, LSA Code, 2000 HSC Code 8 and IMO MSC/Circ.1006

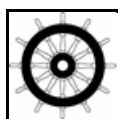
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2023-09-15**.

Issued at **Høvik** on **2018-09-16**

DNV GL local station:
Kristiansand S

Approval Engineer:
Tessa Biever



Notified Body
No.: **0575**

for **DNV GL AS**

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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



Job Id: **344.1-008596-1**
Certificate No: **MEDB00004HK**

Product description

"Matrix-450 MK I" is a rigid rescue boat equipped with outboard engine and 3 point lifting slings.

Asia		
Material	Type	Manufacture
Polyester resin	FL-918	Jiangsu Fullmark Chemicals Co., Ltd.
Gelcoat	Gelcoat RAL 2004, orange	Ashland(Changzhou) Specialty Chemical Co., Ltd or Jiangsu Fullmark Chemicals Co., Ltd.
Glass Fiber	CSM 300/450/600 or EMC (powder type) mats and EMCL (emulsion type) mats	Jiangsu Changhai Composite Materials Holding Co. Ltd or Taishan Fiberglass Inc.
Buoyant material	Buoyancy foam, polyurethane foam	Jiangyin Tongqi Allied Chemical Factory or Qingdao Haijin Polyurethanes Science & Technology Co., Ltd.
Europe		
Material	Type	Manufacture
Polyester resin	Aropol F 207 polyester Resin +Maxguard NP Gelcoat	Ashland Finland Oy
Gelcoat	LS-30PA White or Ashland NP	Scott Bader Co. LTD or Ashland Finland Oy
Glass Fiber	CSM 300/450/650	Jushi Groupe Co., Ltd
	Spray Up Rovings; ER-11-2400-178, ER-11-3000-178, ER13-2400-180, ER13-3000-180	Jushi Groupe Co., Ltd

Length over all: 4,50 m
Breadth over all : 1,96 m
Height: 1,85 m

Weight of boat, fully equipped: 505 kg

Weight of boat, fully manned: 1000 kg

Lifting arrangement: 3 point lifting slings

Hull material: FRP

Propulsion system: Outboard engine

Engine manufacturer and type:

- Tohatsu Corporation, Tohatsu Outboard, 15 Hp (1)
- Tohatsu Corporation, Tohatsu Outboard, 18 Hp (2)
- Tohatsu Corporation, Tohatsu Outboard, 25 Hp (3)
- Norsafe AS, Norsafe Marine T15BML, 15 Hp (4)
- Norsafe AS, Norsafe Marine T25BML, 25 Hp (5)
- Mercury Marine, Mercury/Mariner, 25 Hp (6)

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Bollard pull:

1.1 kN	(1)
1.22 kN	(2)
1.5 kN	(3)
1.23 kN	(4)
1.57 kN	(5)
1.35 kN	(6)

Application/Limitation

Approved engine power, max:

11 kW	(1)
13.2 kW	(2)
18.4 kW	(3)
11 kW	(4)
18.4 kW	(5)
18.4 kW	(6)

Number of persons, max: 6
Maximum load of persons (with 82,5 kg/person): 495 kg

Rescue boat equipment and marking/instructions to be inspected after installation onboard the ship. Equipment shall comply with LSA Code and IMO Res.MSC.81(70).

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

Various components transferring the load ("loose gear") such as shackles, chains, links, blocks etc. shall comply with recognised standard or code and shall be delivered with manufacturer's certificate, confirming a safety factor minimum 6 compared to the sustained load (LSA Code Ch. 6.1.1.6).

Type Examination documentation

Basis for approval:

- Design documentation (drawings and calculations) as listed in "Document Index" No.12381 Rev.2 dated 2017-06-08
- Components data sheets and approval certificates as listed in "Document Index" No.12415 Rev.0 dated 2017-05-27
- Prototype test reports Nos. REP-1139, REP-1140, REP-1141, REP-1142, REP-1202, REP-1509, REP-1510, REP-1511, REP-1512
- Operation and maintenance manual, MAN-0106 Rev.4 dated 2016-05-10.

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 the MED mark of conformity (see page 1).

List of rescue boat equipment to be posted in the boat.