

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 Fast rescue boats: rigid

with type designation(s)
MARE 700 FRB

Issued to

MARE SAFETY AS
ULSTEINVIK, Norway

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2018/773**,
item No. MED/1.20b. SOLAS 74 as amended, Regulation III/4, III/26, III/34, LSA Code and
IMO MSC/Circ.1006, 1016 & 1094

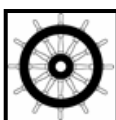
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2024-04-02**.

Issued at **Høvik** on **2019-04-03**

DNV GL local station:
Ulsteinvik

Approval Engineer:
Jasna Jovovic-Lainis



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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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



Product description

"MARE 700 FRB" – a rigid fast rescue boat with single point lifting hook and inflatable bag for re-righting after capsizing.

Materials:

Glassfiber, CSM 300/450/600 g/m ²	Owens Corning, Belgium
Fire retardent resin, DION FR 820 M878	Reichhold AS, Norway
Gelcoat resin, ENGWARD 329826 (Enguard series based on Aropol C138)	Ashland Poland SP Z.O.O., Polen
Buoyancy materials, Elastopor H 1700/10 – 1700/11 – 1702/4	BASF Polyurethanes Nordic AB, Sweden

Length over all, max: 7.38 m
Beam over all, including fenders, Bmax: 2.85 m
Draught: 1.00 m
Weight of boat, fully equipped: 2250 kg
Weight of boat, fully manned (82.5 kg/person): 3488 kg

Hook manufacturer and type: H. Henriksen Mek. Verksted A/S, HMK 3.5, off-load
Lifting arrangement max. WL: 3500 kg

Hull material: GRP

Propulsion system: Inboard engine with waterjet
Engine manufacturer and type: Volvo D3-190
Steyr 236
Steyr 256
Yanmar 4LHA-STP

Waterjet type: Alamarin 230
Alamarin 245
Ultrajet 305H
Hamilton 213

Bollard pull: 2.9 kN with 120 kW engine
5.8 kN with 177 kW engine

Application/Limitation

Approved engine power: 143 kW (Volvo D3-190)
170 kW (Steyr 236)
179 kW (Steyr 256)
177 kW (Yanmar 4LHA-STP)

Number of persons, max: 15
Maximum load of persons (82.5 kg/person): 1238 kg

Fast 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 fast rescue boat is fitted with a release hook without on-load release capabilities, in accordance with LSA Code 4.4.7.6.17. Hence, if it is to be combined with launching appliances with permanent high speed tensioning device (LSA Code 6.1.7.3), compatibility must be assured.

The normal equipment of the fast rescue boat to include a hands-free and watertight VHF radiocommunication set, in addition to the ones required on the bridge.

Job Id: **344.1-000138-109**
Certificate No: **MEDB000052Z**

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) as amended, Part 2.

Type Examination documentation

Basis for approval:

Technical file West Ocean 700 FRC from OMT AS	2000-01-17
Prototype tests approved by Norwegian Ship Control	1997-11-28, 1999-08-20
Prototype tests witnessed by DNV (15 persons)	2007-08-28
Prototype Test, witnessed by DNV GL (Yanmar 4LHA-STP)	2017-11-20
Laminate strength test report, Journal no. cau-892 for both tensile and flexural strength, Reichhold AS, Laboratory site in Sandefjord, Norway	2016-09-20
Laminate fire test report (IMO MSC/Circ.1006.), test report no. F17 130010-10 Rev.1 from RISE Fire Research, Trondheim, Norway	2017-05-15

Drawings:

Drawing No. MS700.000.01.B (Rev.B) – Mare Safety 700 FRB, General Arrangement	2014-01-14
Drawing No. 1007-001-01 (Rev.3) – Lifting Frame Assy (3 pages)	2013-10-15
Drawing No. 1007-001-02 (Rev.1) – Calculation Report, Lifting Frame	2014-05-02
Drawing No. WO700.000.09 - Lines Plan	
Drawing No. WO700.000.11 - Construction	
Drawing No. WO700.000.12 - Sections at 1 to 5 meters from bow	
Drawing No. WO700.000.13 - Midship section	
Drawing No. WO700.000.14 - GRP Laminate Specification	
Drawing No. WO700.000.16 - Fender Construction	
Drawing No. WO700.000.18 - Strength test of lifting arrangements	
Drawing No. WO700.000.50 - Reserve buoyancy foamed sections	
Drawing No. WO700.000.60 - Fuel tank and diagram	
Drawing No. WO700.000.73 - Rightening structure with bag	
Drawing No. WO700.000.80 - 12 VDC On-Line Electric diagram	
Drawing No. WO700.000.81 - Electrical Circuit Diagram	
Drawing No. WO700.000.82 - 42 VAC Electrical diagram	
Drawing No. M700.FRB.02 - Tow. Hook Install	
Drawing No. MS700.000.01 - Seating arrangement 15 persons	2006-02-09

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) and 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 mark of conformity (see page 1).

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