



# EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:  
**MEDB0000371**  
Revision No:  
**5**

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 Fast rescue boats: (b) rigid**

with type designation(s)  
**Merlin-615 MKI Waterjet**

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) 2021/1158,

**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**

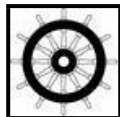
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2027-07-31**.

Issued at **Høvik** on **2022-08-01**

DNV local station:  
**West Norway CMC**

Approval Engineer:  
**Tessa Biever**



Notified Body  
No.: **0575**



for **DNV AS**

Digitally Signed By:

Øyvind Hoff

Location: DNV Høvik, Norway  
on behalf of

**Sverre Olav Bergli**  
**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 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.





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## Product description

"Merlin-615 MKI Waterjet"

Is a rigid fast rescue boat equipped with inboard engine and with single point lifting hook.

Material specification:

ASIA			
Material	Generic name	Type	Manufacturer
Polyester resin:	Polyester resin	FL-918 OR ETERSET 2929PT	Jiangsu Fullmark Chemical Co., Ltd. OR Eternal Materials Co.Ltd.
Gelcoat:		Enguard series: Enguard GE XXXXXS/HZ, Enguard TM XXXXXS/HZ	Ashland (Changzhou) Specialty Chemical Co., Ltd.
Gelcoat/topcoat		FL-NCxxxG	Jiangsu Fullmark Chemicals Co., Ltd
Glass Fiber:	CSM	P-100g/m <sup>2</sup> -- P-900g/m <sup>2</sup> , chopped strand mat - powder bound	Jiangsu Changhai Composite Materials Holding Co., Ltd
		EMC (powder type), EMCL (emulsion type)	Taishan Fiberglass Inc.
Buoyant material:	Rigid polyurethane foam	Rigid polyurethane foam,	Jiangyin Tongqi Allied Chemical Factory OR
		Rigid polyurethane foam, LM-206A/LM-206B	Qingdao Lianmei Chemical Co. Ltd.

EUROPE			
Material	Generic name	Type	Manufacture
Polyester resin	Polyester resin	Aropol F 207 or Aropol F 207 INF	INEOS Composites Finland Oy
Gelcoat		Maxguard NP WHI S, Maxguard NP WHI H	INEOS Composites Finland Oy
		LS-30PA white, LS-31PA & LS-30PA variants	Scott Bader Co., Ltd.
Glass fiber	CSM	Emulsion Bound E-100 – 900 g/m <sup>2</sup>	Jiangsu Changhai Composite Materials
	Multi-axial	Uni-axial; UNIE-L (250-1200 g/m <sup>2</sup> ) with or without CSM (100-600 g/m <sup>2</sup> ), Uni-axial; UNIE-T (150-1000 g/m <sup>2</sup> ) with or without CSM (100-600 g/m <sup>2</sup> )	Selcom S.r.l. a Socio Unico
		Bi-axial; EBX (200-2000 g/m <sup>2</sup> ) with or without CSM (100-600 g/m <sup>2</sup> ), Bi-axial; EBXS (300-2000 g/m <sup>2</sup> ) with or without CSM (100-600 g/m <sup>2</sup> )	Selcom S.r.l. a Socio Unico
		Tri-axial; ETXL (350-2200 g/m <sup>2</sup> ) with or without CSM (100-600 g/m <sup>2</sup> ), Tri-axial; ETXT (200-2000 g/m <sup>2</sup> ) with or without CSM (100-600 g/m <sup>2</sup> )	Selcom S.r.l. a Socio Unico
		Quadri-axial; EQX (400-3500 g/m <sup>2</sup> ) with or without CSM (100-600 g/m <sup>2</sup> )	Selcom S.r.l. a Socio Unico
	Spray Gun Roving	Spray Up Rovings; ER13-2400-180, ER13-3000-180	Jushi Group Co., Ltd.
Buoyant material	Rigid polyurethane foam	Elastopor H 1700/10, Elastopor H 1700/11 and Elastopor H 1702/4	BASF Polyurethanes Nordic AB

Length over all: 6.25 m  
 Breadth over all: 2.45 m  
 Depth: 0.985 m  
 Height over all: 2.50 m

Weight of boat, fully equipped: 1563 kg <sup>(1) (2) (4) (5) (6)</sup>  
 1483 kg <sup>(3)</sup>

Weight of boat, fully manned (82.5 kg/person): 2800 kg <sup>(1) (2) (5) (6)</sup>  
 2718 kg <sup>(4)</sup>



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2473 kg <sup>(3)</sup>

Hook manufacturer and type:	Viking Norsafe AS, K4-D / K4-D FM <sup>(1)</sup> H.Henriksen AS, HMK 3.5 <sup>(2)</sup> Viking Norsafe Life-saving Equipment Jiangyin Ltd., DIB-32 <sup>(3)</sup>
Hook SWL:	K4-D / K4-D FM - 4000 kg <sup>(1)</sup> HMK 3.5 - 3500 kg <sup>(2)</sup> DIB-32 - 3263 kg <sup>(3)</sup>
Hull material:	FRP
Propulsion system:	Inboard engine/waterjet
Engine manufacturer and type:	Steyr Motors GmbH, Steyr 144 <sup>(1)</sup> Steyr Motors GmbH, Steyr 164 <sup>(2)</sup> Yanmar Norge AS, 4JH3-DTE <sup>(3)</sup> BUKH D3-150 <sup>(4)</sup> BUKH D3-170 <sup>(5)</sup> BUKH R210J <sup>(6)</sup>
Waterjet:	Alamarin 230
Bollard pull:	4.6 kN <sup>(1) (2) (3) (5)</sup> 5.0 kN <sup>(4)</sup> 5.3 kN <sup>(6)</sup>

### Application/Limitation

Approved engine power, max:	106 kW <sup>(1)</sup> 120 kW <sup>(2)</sup> 91.9 kW <sup>(3)</sup> 110 kW <sup>(4)</sup> 125 kW <sup>(5)</sup> 154 kW <sup>(6)</sup>
Number of persons, max:	15 <sup>(1) (2) (5) (6)</sup> 12 <sup>(3)</sup> 14 <sup>(4)</sup>
Maximum load of persons (82.5 kg/person):	1238 kg <sup>(1) (2) (5) (6)</sup> 990 kg <sup>(3)</sup> 1155 kg <sup>(4)</sup>
Approved colours:	Orange or Yellow

The fast rescue boat equipment and marking/instructions to be inspected after installation on board 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 4.4.7.6.9. 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 radio communication set, in addition to the ones required on the bridge.

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 as amended.

### Type Examination documentation

Document Index No. 12466 Rev.7 dated 2022-08-04 (Design documentation (drawings and calculations))  
 Document Index No. 12556 Rev.0 dated 2017-06-09 (Components data sheets and approval certificates)  
 Document Index No. 23387 Rev. A dated 2021-03-01 (Alternative Polyester Resin ETERSET 2929PT)



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### **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 MED mark of conformity (see page 1).

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