



EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB0000314
Revision No:
4

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 Rigid rescue boats

with type designation(s)
Midget-500 MKII

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) 2022/1157**,

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

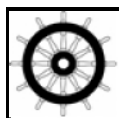
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2028-06-11**.

Issued at **Høvik** on **2023-06-12**

DNV local unit:
West Norway CMC

Approval Engineer:
Tessa Bieber



Notified Body
No.: **0575**



for **DNV AS**

Digitally Signed By: Elter, Frederik Tore
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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.



Product description

"Midget-500 MKII" is a rigid rescue boat equipped with outboard engine and self-righting arrangement; with either a single point lifting hook or 3 point lifting slings; with either thwart or saddle.

Material specifications:

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 ² – P-900g/m ² , 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.

Length over all: 5.10 m
 Breadth over all: 2.07 m
 Depth: 0.80 m
 Height: 1.90 m

Weight of boat, fully equipped:
 Version with slings and thwart (25HP) 605 kg
 Version with slings and saddle (25-40HP / 50-60HP) 705/805 kg
 Version with hook and saddle (25-40HP / 50-60HP) 705/825 kg

Weight of boat, fully manned (82.5 kg/person):
 Version with slings and thwart (25HP) 1100 kg
 Version with slings and saddle (25-40HP / 50-60HP) 1200/1300 kg
 Version with hook and saddle (25-40HP / 50-60HP) 1200/1320 kg

Lifting arrangement: 3-point lifting slings
 or
 Hook manufacturer and type: Norsafe K4-D / Henriksen HRH 1.5
 Hook SWL: 4000 kg / 1650 kg

Hull material: FRP

Propulsion system: Outboard engine

Engine manufacturer and type:
 Yamaha Motor Co., Ltd., F50FET (1)
 Mercury Marine, Mercury/Mariner 25 (2)
 Mercury Marine, Mercury/Mariner 60 (3)
 Tohatsu Corporation, Tohatsu outboard 25HP (4)
 Tohatsu Corporation, Tohatsu outboard M50D (5)
 Norsafe AS, Norsafe Marine T25 FWL (6)
 Norsafe AS, Norsafe Marine T25 BML (7)
 Norsafe AS, Norsafe Marine T60 FEL-T (8)
 Norsafe AS, Norsafe Marine T40 FWL (9)
 Frydenbo Marine AS, Evinrude E-TEC 25 (10)

Bollard pull:	2.6 kN (1)
	1.3 kN (2)
	2.4 kN (3)
	1.5 kN (4)
	2.9 kN (5)
	1.8 kN (6)
	1.5 kN (7)
	4.2 kN (8)
	2.1 kN (9)
	1.9 kN (10)

Application/Limitation

Approved engine power, max:	36.8 kW (1)
	18.4 kW (2)
	44.1 kW (3)
	18.4 kW (4)
	36.8 kW (5)
	18.4 kW (6)
	18.4 kW (7)
	44.1 kW (8)
	29.4 kW (9)
	18.4 kW (10)

Number of persons, max:	6
Maximum load of persons (82.5 kg/person):	495 kg

Approved colour:	Orange
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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 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 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.

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).

For the rescue boat equipped with engine with power of more than 36.8 kW there should be a hardware means limiting the maximum speed of the boat to maximum 20 knots (ref. MarED Approved Recommendation LSA-075).

Type Examination documentation

Drawings	Date
A-500647 Rev.2 - Painter release hook, 4.6T	2022-11-09
A-501836 Rev.3 - Midget-500, Lifting slings system	2021-05-27
A-506257 Rev.4 (3 sheets) - Midget-500 MKII, Hook(HRH1.5) arrangement, Hook and saddle	2023-02-10
D-500168 Rev.1 - Midget-500 MKI and MKII, Control table for laminate thickness hull	2022-07-16
D-500169 Rev.1 - Midget-500 MKI and MKII, Control table for laminate thickness liner	2022-07-16
E-501420 Rev.4 - Midget-500 MKII, Electrical diagram (Engine less than 50HP)	2020-11-23
E-503050 Rev.4 - Midget-500 MKII, Electrical diagram (Engine more than 40HP)	2020-11-30
G-500630 Rev.7 - Midget-500 MKII, Slings and Thwart, General arrangement	2022-03-10
G-500631 Rev.8 - Midget-500 MKII, Slings and Saddle 25~40HP General arrangement	2022-03-10
G-500632 Rev.8 - Midget-500 MKII, Hook and Saddle 25~40HP, General arrangement	2022-03-09
G-502904 Rev.2 - Midget-500 MKII, Slings and Saddle 50~60HP, General arrangement	2022-03-10
G-502916 Rev.2 - Midget-500 MKII, Hook and Saddle 50~60HP, General arrangement	2019-07-08
G-503013 Rev.2 - Midget-500 MKII, HRH1.5 (SWL 1.65T) Hook and Saddle, General arrangement	2022-03-14
R-501027 Rev.2 - Midget-500 MKII Slings and saddle type seating plan	2020-07-29

R-501035 Rev.1 - Painter release hook for Midget-500	2023-02-09
R-501083 Rev.1 - Midget-500 MKII, Buoyancy calculation	2022-11-07
S-501340 Rev.4 (4 sheets) - Matrix-450/Midget-500, Self-righting frame, Lamination	2021-08-26
S-504736 Rev.4 (3 sheets) - Midget-500, Lifting pillar	2020-05-27
S-514187 Rev.1 (3 sheets) - Midget-500 MKII (sling version)	2022-07-16
S-514290 Rev.1 (3 sheets) - Midget-500 MKII (hook version)	2023-02-23
S-514188 Rev.1 (4 sheets) - Midget-500 MKII (sling version)	2022-02-21
S-514540 Rev.1 (4 sheets) - Midget-500 MKII (hook version)	2022-02-14
S-506932 Rev.1 - Midget-500 MKII Aft lifting bracket, port	2020-08-31
S-506934 Rev.1 (2 sheets) - Midget-500 MKII Fwd lifting bracket	2020-09-01
S-506935 Rev.1 - Aft lifting bracket backing, PL 8 X 60 X 120	2020-08-31
S-506936 Rev.1 - Fwd lifting bracket backing, PL 8 X 50 X 120	2022-11-04
S-510074 Rev.1 - Midget-500 MKII Aft lifting bracket, stbd	2020-08-31
S-513981 Rev.3 - Midget-500 MKII, Lifting pillar, HRH 1.65T	2023-02-09
S-515060 Rev.3 - Hang off/ recovery lug, Henriksen HRH 1.65T	2023-02-09
Reports	Date
REP-1218-0 – Test report No. 2016-05-M002 (IMO MSC. /Circ.1006) from Shanghai R&D Center for Polymer Materials, Shanghai, China.	2016-06-21
REP-1219-0 – Test report No. 2016-06-0435 (Laminate strength test) from Shanghai R&D Center for Polymer Materials, Shanghai, China.	2016-06-14
REP-1267-0	2010-05-04
REP-1268-0	2013-03-07
REP-1269-0	2016-11-24
REP-1270-0	1996-04-17
REP-1271-0	2002-08-15
REP-1273-0	2008-11-12
REP-1274-0	2015-02-03
REP-1275-0	2003-04-22
REP-1276-0	2015-03-21
REP-1277-0	2015-06-24
REP-1304-0	2017-07-17
REP-1345-0	2015-05-28
REP-1374-1	2017-03-07
REP-1460-0	2018-04-17
REP-1550-0	2018-11-02
REP-1656-0	2019-05-23
REP-1982-0	2021-07-20
Calculations	
CAL-0281 Rev.3 - LIFTING LUG AND GRP STRENGTH CALCULATION MIDGET-501	2021-06-18
CAL-0827 Rev.4 - Calculation report of the connection of Henriksen 1.65T and pillar	2019-10-29
Other	
MAN-0107 Rev.8 - Midget-500 MKI & MKII Outboard w/sling, Operation and maintenance	2020-06-23
MAN-0109 Rev.5 - Midget-500 MKI & MKII Outboard w/K4 hook, Operation and maintenance	2020-06-23
MAN-1158 Rev.1 - Midget-500 MKII Outboard w/ HRH 1.65T hook	2020-11-23
Document Index No. 12556 Rev. 0 - Components data sheets and approval certificates	2017-06-09
Document Index No. 23387 Rev. A - Alternative Polyester Resin ETERSET 2929PT	2021-03-01

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 manufacture, 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.