



CERTIFICATE OF TYPE APPROVAL

This is to certify that

The product detailed below has been found by a member of the Lloyd's Register group to comply with the Specified Standard (s) referenced below and may be accepted for use on ships and offshore installations classed with Lloyd's Register, and on ships and offshore installations when authorised by relevant contracting governments.

Manufacturer	Markus Lifenet Ltd
Address	Breidvangur 30 220 Hafnarfjordur Iceland
Product Type	NOVEL LIFE-SAVING DEVICE
Product Description	Manually deployed man overboard retrieval device - Type: "Markusnet MS 0.5, MS.10, MS.20, MS.30"
Specified Standards	The LSA Code Regulations I/1.2 as applicable. IMO Resolution A.520(13) Annex 2.1.1.5 and MSC.81(70) Part 1 as applicable.

The attached Design Appraisal Document forms part of this certificate.

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached Design Appraisal Document are complied with and the equipment remains satisfactory in service.

Date of issue 30 March 2016

Expiry date 29 March 2021

Certificate No. SAS S160032

Signed

Sheet No 1 of 4

Name

L. Thomas
Surveyor to Lloyd's Register EMEA
A Member of the Lloyd's Register Group

Note:

This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Lloyd's Register of any modification or changes to the equipment in order to obtain a valid certificate.

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.



Page	2 of 4
Document number	SAS S160032
Issue number	1

DESIGN APPRAISAL DOCUMENT

Date 30 March 2016	Quote this reference on all future communications MTES/SFS/TA/LT/WP24079837
-----------------------	--

ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS S160032

The undernoted documents have been appraised for compliance with the relevant requirements of the Specified Standards, and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

<u>Drawing No.</u>	<u>Date</u>	<u>Title</u>
TD No. 1	-	Markusnet Type MS Components
TD No. 2	1999-09-10	Rescue-net Structure
TD No. 3	1999-09-10	Net Structure and Attached Parts
TD No. 4	-	Container Components
MS Lable 1	-	Container Lable
MS Lable 2	-	Freeboard Lable
MS Lable 3	-	Instruction Lable on Container Lid
MS Lable 4	-	Technical Information on Lid
LEI-039 / 3	-	Manoverboard Safety & Rescue Guide
LEI-040/2	-	Technical Sheet

TEST REPORTS

IceTec Tensile & Buoyancy test report No. 8HP0047 dated 3 March 2000.

Netherlands Navy Testing, report dated 1 May 1991.

Tensile, Buoyancy and Temperature Cycling Test carried out at Innovation Centre Iceland, Report No 8HP15056, dated 10.08.2015.

CONDITIONS OF CERTIFICATION

Maximum number of persons : 1
SWL : 82.5 Kg

<u>Type</u>	<u>Lifting height up to:</u>
MS.05	5 m
MS.10	10 m
MS.20	20 m
MS.30	30 m

1. For the use of recovery of one person at a time in horizontal or deck chair position from water to onboard deck of a vessel by manual lifting or by means of mechanical hoisting
2. Recovery equipment should be clearly marked as single person use only along with the maximum lifting height it is designed for
3. For each installation of the recovery device, the vessel owner/Operator shall conduct and document a Risk Assessment that take into account he anticipated condition and ship specific characteristics
4. Ship specific plan and procedure for recovery of persons from the water should be developed in accordance with MSc.1/Circ 1447 and MSC.1/Circ 1182



Page
3 of 4
Document number
SAS S160032
Issue number
1

DESIGN APPRAISAL DOCUMENT

Date	Quote this reference on all future communications
30 March 2016	MTES/SFS/TA/LT/WP24079837

ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS S160032

5. On board drills should be conducted to ensure that the crew is familiar with this equipment and ship's recovery procedures
6. It is to be confirmed that the use of this novel life-saving appliances is acceptable to the Flag Administration of the vessel on which the novel life-saving appliances is installed
7. The hoisting mechanism to be used in conjunction with this recovery device is not part of this Design Appraisal or Certificate, but is expected to be tested in accordance with requirements of IMO Resolution MSC.81 (70) and chapter 12 of the LR Code for lifting appliance 2013 as appropriate, to the attending Surveyor's satisfaction
8. **Installation onboard:** The installation of the recovery device is not part of this design appraisal or certificate. All such arrangements are to be to the satisfaction of the vessel's Administration and/or RO acting on their behalf on an installation-by-installation basis and ship specific basis
9. A staged demonstration of compatibility of the recovery device and hoisting arrangement by way of function test with 1.1 times the working load should be carried out to the satisfaction of the attending Surveyor. The date of installation test should be clearly and durably marked on the unit
10. Production tests are to be conducted in accordance with the applicable requirements of IMO Resolution MSC.81 (70), Part 2. Production tests on each unit must be carried out before dispatch from the manufacturer to a static load of 2.2 times the working load. Date of test should be clearly and durably marked on the unit. This does not preclude any further testing to additional requirements of the Marine Administration of the country where the ship is registered (i.e. the flag state) or those acting on behalf of that Administration
11. Instructions for installation, use and maintenance are to be supplied with each device according to its end use
12. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure compliance with SOLAS Regulation III/5
13. If the specified standards are amended during the validity of this certificate, this product type is to be re-approved prior to it being supplied to vessels to which the amended standards apply



Lloyd's
Register

Lloyd's Register EMEA

71 Fenchurch Street, London, EC3M 4BS

Telephone 020 7423 2416 Fax 020 7423 2053

Email med@lr.org

Page 4 of 4
Document number SAS S160032
Issue number 1

DESIGN APPRAISAL DOCUMENT

Date 30 March 2016	Quote this reference on all future communications MTES/SFS/TA/LT/WP24079837
-----------------------	--

ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS S160032

PLACE OF PRODUCTION

Markus Lifenet Ltd.
Hvaleyrarbraut 3
220 Hafnarfjordur
Iceland



Lijo Thomas
Senior Specialist
Statutory Fire & Safety
Marine Technology and Engineering Services
Lloyd's Register EMEA

Supplementary Type Approval Terms and Conditions

This certificate and Design Appraisal Document relates to type approval, it certifies that the prototype(s) of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein, it does not mean or imply approval for any other use, nor approval of any products designed or manufactured otherwise than in strict conformity with the said prototype(s).