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## Mared Product Database

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### Product Information

Product name: **Ikaros Linethrower (Art. N° 346 100)**

Trade name: Line-throwing appliances (pyrotechnics)

Restriction of use:

### APPLICANT/MANUFACTURER (PLACING THE PRODUCT ON THE MARKET)

Applicant: Nammo Sweden AB

### MED Conformity Information

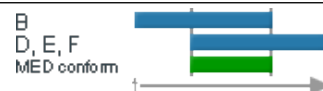
Applied directive: 2014/93/EU MED (10th Amendment)

Item category: 96/98/EC

Item number and designation: A.1/1.11 Line-throwing appliances

Applied module(s): B+D

Status of MED certificates (Combined validity period): 2016-09-05 - 2019-07-17



### Information on MED certificate(s)

Certificate number of type examination (B): 06890/D1 EC

Period of validity of type examination certificate: 2015-11-12 - 2019-07-17

Comments to type examination certificate:

.....  
Certificate number of production/product module (D, E, F) or unit verification (G): MEDD00000DV Rev. 1

Comments to production/product module or unit verification:

Period of validity of production/product module or unit verification certificate: 2016-09-05 - 2021-09-04

Comments to date of expiry of production module certificate:

.....  
USCG MRA approval number: 160.040/EC0062/06890-D1EC/EC0575

Comments to USCG approval:

### Notified Body

Notified Body issuing type approval (B) certification: 0062 - Bureau Veritas

.....  
Notified Body responsible for the MED assessment: DNV GL AS (former DNV AS)



Please note, that the information provided has been prepared accurately and to the best knowledge. However, the information is indicative only. There is no guarantee for completeness, actuality or an absolute correctness. For further clarification, please contact the indicated Notified Bodies or the companies offering the products to the market directly.

# 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 Line-throwing appliances (pyrotechnics)**

with type designation(s)  
**Ikaros line thrower**

Issued to

**Hansson PyroTech AB**

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

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

**item No. MED/1.11. SOLAS 74 as amended, Regulation III/4, III/18, III/34 & X/3, LSA Code and 2000 HSC Code 8**

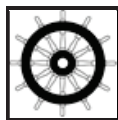
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2023-10-28.**

Issued at **Høvik** on **2018-10-29**

DNV GL local station:  
**Stockholm**

Approval Engineer:  
**Tessa Bieber**



Notified Body  
No.: **0575**



for **DNV GL AS**

**Head of Notified Body**

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005.

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: **344.1-007802-1**  
Certificate No: **MEDB00003R4**

## Product description

"Ikaros line thrower"

Is a unit composed of a water resistant hand-held plastic container with handle, containing a steel cased projectile with cartridge and line. The line is not directly attached to the rocket. A coiled metal wire designed to dampen the pull from the rocket at ignition and keep the line away from the nozzle, joins the line and rocket.

Minimum length of line: 340 m  
Projectile design weight: 662 g  
Fully equipped weight: 4 kg

For further details see test report and drawing listed under Type Examination documentation below.

## Application/Limitation

The design assessment is based on IMO Res. MSC.48(66).

To conform to the requirements of the paragraph 7.1.1 of IMO Resolution MSC 48(66), one Line-throwing Appliance is constituted by 4 units.

Acceptable lifetime 4 years for rocket and 10 years for unit and line.

Production and installation testing shall be carried out according to IMO Res. MSC.81(70), Part 2, Ch.4.

## Type Examination documentation

Drawing no.	Date
690000 Rev.4 – Line thrower container complete	2018-03-02
690013 Rev.5 – Plastic container	2018-03-08
690020 Rev.5 – Line pack	2018-03-01
690047 Rev.8 – Mortar assembly	2018-03-06
690096 Rev.3 – line thrower rocket	2018-02-15
Test reports	Date
Prototype test report iaw LSA Code part 1, witnessed by BV.	2015-03-31 2015-08-18
Test report for the breaking strength of the PP line (=2.5 kN), performed by line manufacturer Coldgarn AB	2015-06-09
Test report SBTC 15-0351R, Rev.1 – Immersion test for Rocket iaw LSA Code Part 1 item 9.1 and item 4.3.1, see prototype test report	2015-08-17
Test report SBTC 15-0344, Rev.1 – function test of Ikaros line	2015-08-18
Test report SBTC 15-0084R, Rev.1 including the following tests: - SBTC 15-0084P01: Temperature cycling - SBTC 15-0084P02: Immersion test - SBTC 15-0084P03: Salt water spray - SBTC 15-0084P04: Drop test - SBTC 15-0084P05: Temperature /Humidity	2015-03-30 2015-03-04 2015-03-31 2015-03-27 2015-03-04 2015-03-30
Test report SBTC 15-0073, Rev.1 – Acceptance test of Ikaros line	2015-03-31
Test report TR 17-006, Rev.1 – Verification of line attachment	2017-09-08
Test report TR 15-004, Rev.1 – Activation of safety products using buoyant immersion suit gloves	2015-01-28



Job Id: **344.1-007802-1**  
Certificate No: **MEDB00003R4**

### **Tests carried out**

Tests are documented in accordance with recommendation on testing of Lifesaving Appliances, IMO Res. MSC.81(70) Part 1.

### **Marking of product**

The product is to be marked with name and address of manufacturer, type designation, date of manufacture, date of expiry, operational restrictions, MED Mark of Conformity and USCG number if applicable (see first page).

The product should be provided with brief instructions or diagrams clearly illustrating the use printed on the casing.

# QS - CERTIFICATE OF ASSESSMENT - EC (MODULE D)

Certificate No:  
**MEDD00000DV**  
Revision No:  
**1**

Application of: Council Directive 96/98/EC of 20 December 1996 on Marine Equipment as amended by directive (EU) 2015/559, issued as "Forskrift om Skipsutstyr" by the Norwegian Maritime Directorate. This Certificate is issued by DNV GL AS under the authority of the Government of the Kingdom of Norway.

**This is to certify:****That the Quality System for the products**

with type designation(s) as specified in the Appendix to this Certificate

Issued to

**Nammo LIAB AB**

is found to comply with the requirements applicable to it.

The quality has been assessed with respect to the procedure of conformity assessment described in Annex B, Module D in the directive.

This Certificate is valid until **2021-09-04**.

Issued at **Høvik** on **2016-09-05**

DNV GL local station:  
**Stockholm**



for **DNV GL AS**

Approval Engineer:  
**Espen Kultorp**

Notified Body  
No.: **0575**

**Vidar Dolonen**  
**Head of Notified Body**

The manufacturer is allowed to affix the U.S. Coast Guard approval number(s) as stated in the appendix attached hereto and as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005.



0575/yy

0575: Notified Body number undertaking quality surveillance  
yy: Last two digits of year in which the mark is affixed

The product liability rests with the manufacturer or his representative in accordance with Council Directive 96/98/EC, as amended.

This certificate authorizes the manufacturer in conjunction with the EC Type Examination (Module B) Certificate of the equipment listed before to affix the Mark of Conformity (wheelmark) to the product described herein.

This certificate loses its validity if the manufacturer makes any changes to the approved quality system which have not been notified to and agreed with the notified body named on this certificate and/or after lapse of time, withdrawal or revocation of the EC Type Examination (Module B) Certificate.

The Manufacturer has to apply for periodical audits to verify the maintenance and application for the quality system every 12 months.



Job Id: **344.1-005526-2**  
Certificate No: **MEDD00000DV**  
Revision No: **1**

## APPENDIX

### A.1/1.10 Buoyant smoke signals (pyrotechnics)

Type designation	EC Type-Examination Certificate No.	Expiry date	Notified Body No.	USCG approval number
IKAROS Buoyant Smoke, Orange, Art.N° 342 130 <sup>1</sup>	05786/D1 EC	2019-07-17	0062	160.122/EC0062 /05786-D1 EC /EC0575

### A.1/1.11 Line-throwing appliances (pyrotechnics)

Type designation	EC Type-Examination Certificate No.	Expiry date	Notified Body No.	USCG approval number
Ikaros Linethrower (Art. N° 346 100) <sup>1</sup>	06890/D1 EC	2019-07-17	0062	160.040/EC0062 /06890-D1 EC /EC0575

### A.1/1.3 Lifebuoys self-activating smoke signals

Type designation	EC Type-Examination Certificate No.	Expiry date	Notified Body No.	USCG approval number
Ikaros MOB MK IV smoke signal, Art.N°345105 <sup>1</sup>	06891/D0 EC	2019-05-30	0062	160.157/EC0062 /06891-D0 EC /EC0575
IKAROS MOB, smoke, Art.N°345205 <sup>1</sup>	20321/B2 EC	2018-07-09	0062	160.157/EC0062 /20321-B2 EC /EC0575

### A.1/1.8 Rocket parachute flares (pyrotechnics)

Type designation	EC Type-Examination Certificate No.	Expiry date	Notified Body No.	USCG approval number
IKAROS Parachute Rocket, Red, Article N° 340 100 <sup>1</sup>	06553/D1 EC	2019-07-17	0062	160.136/EC0062 /06553-D1 EC /EC0575

### A.1/1.9 Hand flares (pyrotechnics)

Type designation	EC Type-Examination Certificate No.	Expiry date	Notified Body No.	USCG approval number
Ikaros Hand Flare, Red, Art. N° 341 500 <sup>1</sup>	06148/D0 EC	2019-07-17	0062	160.121/EC0062 /06148-D0 EC /EC0575

Job Id: **344.1-005526-2**  
Certificate No: **MEDD00000DV**  
Revision No: **1**

**A1/1.2b Position indicating lights for lifebuoys**

<b>Type designation</b>	<b>EC Type-Examination Certificate No.</b>	<b>Expiry date</b>	<b>Notified Body No.</b>	<b>USCG approval number</b>
Ikaros MOB Mk IV Light Signal, Art. N° 345105 <sup>1</sup>	06892/E0 EC	2021-07-14	0062	N/A

# 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 Line-throwing appliances (pyrotechnics)**

with type designation(s)  
**Ikaros line thrower**

Issued to

**Hansson PyroTech AB**

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

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

**item No. MED/1.11. SOLAS 74 as amended, Regulation III/4, III/18, III/34 & X/3, LSA Code and 2000 HSC Code 8**

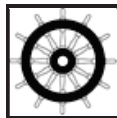
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2023-10-28.**

Issued at **Høvik** on **2018-10-29**

DNV GL local station:  
**Stockholm**

Approval Engineer:  
**Tessa Bieber**



Notified Body  
No.: **0575**



for **DNV GL AS**

**Head of Notified Body**

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F), as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005.

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: **344.1-007802-1**  
Certificate No: **MEDB00003R4**

## Product description

"Ikaros line thrower"

Is a unit composed of a water resistant hand-held plastic container with handle, containing a steel cased projectile with cartridge and line. The line is not directly attached to the rocket. A coiled metal wire designed to dampen the pull from the rocket at ignition and keep the line away from the nozzle, joins the line and rocket.

Minimum length of line: 340 m  
Projectile design weight: 662 g  
Fully equipped weight: 4 kg

For further details see test report and drawing listed under Type Examination documentation below.

## Application/Limitation

The design assessment is based on IMO Res. MSC.48(66).

To conform to the requirements of the paragraph 7.1.1 of IMO Resolution MSC 48(66), one Line-throwing Appliance is constituted by 4 units.

Acceptable lifetime 4 years for rocket and 10 years for unit and line.

Production and installation testing shall be carried out according to IMO Res. MSC.81(70), Part 2, Ch.4.

## Type Examination documentation

Drawing no.	Date
690000 Rev.4 – Line thrower container complete	2018-03-02
690013 Rev.5 – Plastic container	2018-03-08
690020 Rev.5 – Line pack	2018-03-01
690047 Rev.8 – Mortar assembly	2018-03-06
690096 Rev.3 – line thrower rocket	2018-02-15
Test reports	Date
Prototype test report iaw LSA Code part 1, witnessed by BV.	2015-03-31 2015-08-18
Test report for the breaking strength of the PP line (=2.5 kN), performed by line manufacturer Coldgarn AB	2015-06-09
Test report SBTC 15-0351R, Rev.1 – Immersion test for Rocket iaw LSA Code Part 1 item 9.1 and item 4.3.1, see prototype test report	2015-08-17
Test report SBTC 15-0344, Rev.1 – function test of Ikaros line	2015-08-18
Test report SBTC 15-0084R, Rev.1 including the following tests: - SBTC 15-0084P01: Temperature cycling - SBTC 15-0084P02: Immersion test - SBTC 15-0084P03: Salt water spray - SBTC 15-0084P04: Drop test - SBTC 15-0084P05: Temperature /Humidity	2015-03-30 2015-03-04 2015-03-31 2015-03-27 2015-03-04 2015-03-30
Test report SBTC 15-0073, Rev.1 – Acceptance test of Ikaros line	2015-03-31
Test report TR 17-006, Rev.1 – Verification of line attachment	2017-09-08
Test report TR 15-004, Rev.1 – Activation of safety products using buoyant immersion suit gloves	2015-01-28



Job Id: **344.1-007802-1**  
Certificate No: **MEDB00003R4**

### **Tests carried out**

Tests are documented in accordance with recommendation on testing of Lifesaving Appliances, IMO Res. MSC.81(70) Part 1.

### **Marking of product**

The product is to be marked with name and address of manufacturer, type designation, date of manufacture, date of expiry, operational restrictions, MED Mark of Conformity and USCG number if applicable (see first page).

The product should be provided with brief instructions or diagrams clearly illustrating the use printed on the casing.

# QS - CERTIFICATE OF ASSESSMENT - EC (MODULE D)

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 Quality System for the products**

with type designation(s) as specified in the Appendix to this Certificate

Issued to

**Hansson PyroTech AB**

is found to comply with the applicable requirements.

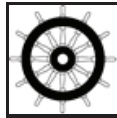
The quality system has been assessed with respect to the procedure of conformity assessment described in Annex II, Module D in the directive 2014/90/EU and regulation (EU) 2018/773.

This Certificate is valid until **2021-09-04**.

Issued at **Høvik** on **2019-09-27**

DNV GL local station:  
**Stockholm**

Approval Engineer:  
**Jasna Jovovic-Lainis**



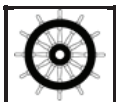
Notified Body  
No.: **0575**



for **DNV GL AS**

**Head of Notified Body**

The manufacturer is allowed to affix the U.S. Coast Guard approval number(s) as stated in the appendix attached hereto and as allowed by the "Agreement between the United States of America and the EEA EFTA states on the mutual recognition of Certificates of Conformity for Marine Equipment" signed 17 October 2005.



0575/yyyy

0575: Notified Body number undertaking quality surveillance  
yyyy: The year in which the mark is affixed

The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate authorizes the manufacturer in conjunction with the valid EC Type Examination (Module B) Certificate(s) of the equipment listed before to affix the Mark of Conformity (wheelmark) to the product described herein. This certificate loses its validity if the manufacturer makes any changes to the approved quality system which have not been notified to and agreed with the notified body named on this certificate. This certificate remains valid unless suspended, withdrawn, recalled or cancelled. The Manufacturer has to apply for periodical audits to verify the maintenance and application for the quality system every 12 months.

Job Id: **344.1-009138-1**  
Certificate No: **MEDD00001TR**

## APPENDIX

### Item no. MED/1.10 Buoyant smoke signals (pyrotechnics)

Type designation	EC Type-Examination Certificate No.	Expiry date	Notified Body No.	USCG approval number
IKAROS Buoyant Smoke Signal, Orange <sup>1</sup>	MEDB00005F2	2024-07-03	0575	160.122/EC0575 /MEDB00005F2

### Item no. MED/1.11 Line-throwing appliances (pyrotechnics)

Type designation	EC Type-Examination Certificate No.	Expiry date	Notified Body No.	USCG approval number
Ikaros line thrower <sup>1</sup>	MEDB00003R4	2023-10-28	0575	160.040/EC0575 /MEDB00003R4

### Item no. MED/1.2b Position indicating lights for lifebuoys

Type designation	EC Type-Examination Certificate No.	Expiry date	Notified Body No.	USCG approval number
Ikaros MOB Mk IV Light Signal <sup>1</sup>	MEDB000046Y Rev.1	2023-12-16	0575	161.110/EC0575 /MEDB000046Y Rev.1

### Item no. MED/1.3 Lifebuoys self-activating smoke signals

Type designation	EC Type-Examination Certificate No.	Expiry date	Notified Body No.	USCG approval number
Ikaros MOB IV smoke signal <sup>1</sup>	MEDB000046X	2023-12-16	0575	160.157/EC0575 /MEDB000046X

### Item no. MED/1.8 Rocket parachute flares (pyrotechnics)

Type designation	EC Type-Examination Certificate No.	Expiry date	Notified Body No.	USCG approval number
IKAROS Parachute Rocket, Red <sup>1</sup>	MEDB000053J	2024-07-03	0575	160.136/EC0575 /MEDB000053J

### Item no. MED/1.9 Hand flares (pyrotechnics)

Type designation	EC Type-Examination Certificate No.	Expiry date	Notified Body No.	USCG approval number
IKAROS Hand Flare, Red <sup>1</sup>	MEDB00005F3	2024-07-03	0575	160.121/EC0575 /MEDB00005F3

# TYPE APPROVAL CERTIFICATE

**This is to certify:**

**That the**

with type designation(s)  
**Ikaros line thrower**

Issued to

**Hansson PyroTech AB**

is found to comply with

**SOLAS 74 as amended, LSA Code as amended. IMO Resolution MSC.81(70) as amended**

**Application :**

**This certificate is recognized by Transport Canada.**

**Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

Issued at **Høvik** on **2019-02-13**

This Certificate is valid until **2024-02-12**.

DNV GL local station: **Stockholm**

Approval Engineer: **Tessa Biever**



for **DNV GL**

**Head of Section**

Job Id: **262.1-030235-1**  
Certificate No: **TALB000002H**

## Product description

"Ikaros line thrower"

Is a unit composed of a water resistant hand-held plastic container with handle, containing a steel cased projectile with cartridge and line. The line is not directly attached to the rocket. A coiled metal wire designed to dampen the pull from the rocket at ignition and keep the line away from the nozzle, joins the line and rocket.

Minimum length of line: 340 m  
Projectile design weight: 662 g  
Fully equipped weight: 4 kg

For further details see test report and drawing listed under Type Examination documentation below.

## Application/Limitation

The design assessment is based on IMO Res. MSC.48(66) and Transport Canada - TP14475E Part I, Chapter VII item 7.1.

To conform to the requirements of the paragraph 7.1.1 of IMO Resolution MSC 48(66), one Line-throwing Appliance is constituted by 4 units.

Acceptable lifetime 4 years for rocket and 10 years for unit and line.

Production and installation testing shall be carried out according to IMO Res. MSC.81(70), Part 2, Ch.4.

## Type Examination documentation

Certification in accordance with Class Programme DNVGL-CP-0338, September 2018.

Drawing no.	Date
690000 Rev.4 - Line thrower container complete	2018-03-02
690013 Rev.5 - Plastic container	2018-03-08
690020 Rev.5 - Line pack	2018-03-01
690047 Rev.8 - Mortar assembly	2018-03-06
690096 Rev.3 - line thrower rocket	2018-02-15
Test reports	Date
Prototype test report iaw LSA Code part 1, witnessed by BV.	2015-03-31 2015-08-18
Test report for the breaking strength of the PP line (=2.5 kN), performed by line manufacturer Coldgarn AB	2015-06-09
Test report SBTC 15-0351R, Rev.1 - Immersion test for Rocket iaw LSA Code Part 1 item 9.1 and item 4.3.1, see prototype test report	2015-08-17
Test report SBTC 15-0344, Rev.1 - function test of Ikaros line	2015-08-18
Test report SBTC 15-0084R, Rev.1 including the following tests: - SBTC 15-0084P01: Temperature cycling - SBTC 15-0084P02: Immersion test - SBTC 15-0084P03: Salt water spray - SBTC 15-0084P04: Drop test - SBTC 15-0084P05: Temperature /Humidity	2015-03-30 2015-03-04 2015-03-31 2015-03-27 2015-03-04 2015-03-30
Test report SBTC 15-0073, Rev.1 - Acceptance test of Ikaros line	2015-03-31
Test report TR 17-006, Rev.1 - Verification of line attachment	2017-09-08
Test report TR 15-004, Rev.1 - Activation of safety products using buoyant immersion suit gloves	2015-01-28



Job Id: **262.1-030235-1**  
Certificate No: **TALB000002H**

### **Tests carried out**

Tests are documented in accordance with recommendation on testing of Lifesaving Appliances, IMO Res. MSC.81(70) Part 1 and Transport Canada – TP 14475E Part II item 9.

### **Marking of product**

The product is to be marked with name and address of manufacturer, type designation, date of manufacture, date of expiry, operational restrictions.

With ref to Transport Canada – TP 14475E Part II item 15 the marking to be both in English and French.

The product should be provided with brief instructions or diagrams clearly illustrating the use printed on the casing.

### **Transport Canada Approval**

Based on the procedures laid down in the Transport Canada Publication entitled "Approval Procedures for, Life Saving Equipment and Structural Fire Protection Products (TP 14612)", DNV GL confirms that the product listed in this certificate is in accordance with Transport Canada's requirements.

### **Periodical assessment**

DNV GL's surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in Class Programme DNVGL-CP-0338, Section 4



**BUREAU  
VERITAS**

*Marine & Offshore  
Division*

Certificate number: 06890/D1 EC

File number: PYR 2466/06

Annex A1 Item number: A.1/1.11

USCG Module B number: 160.040 / EC0062

*This certificate is not valid when presented without the full  
attached schedule composed of 7 sections*

**Notified Body 0062 - MARINE EQUIPMENT DIRECTIVE 96/98/EC**

## EC TYPE EXAMINATION CERTIFICATE

*as per Module B of European Union Council Directive 96/98/EC on marine equipment  
as amended by Commission Directive 2014/93/EU*

*This certificate is issued to*

**Nammo LIAB AB**

Lindesberg - SWEDEN

*for the type of product*

### LINE-THROWING APPLIANCES

Ikaros Linethrower (Art. N° 346 100)

1 Line-throwing Appliance = 4 units "Ikaros Linethrower (Art. N° 346 100)"

#### Requirements:

SOLAS 74 Convention as amended, Reg. III/4, X/3, III/18 and III/34

IMO Res. MSC.36(63) -(1994 HSC Code)- as amended, 8

IMO Res. MSC.97(73)-(2000 HSC Code)- as amended, 8

IMO Res. MSC.48(66) amended by MSC.207(81),MSC.218(82),MSC.272(85),MSC.293(87),MSC.320(89) & MSC.368(93), I, VII


IMO Res. MSC.81(70) amended by MSC.200(80),MSC.226(82),MSC.274(85),MSC.295(87),MSC.321(89),MSC.323(89) & MSC.378(93)

IMO MSC/Circ. 980

*This certificate is issued on behalf of the French Maritime Authorities to attest that BUREAU VERITAS did undertake the relevant type-examination procedures for the product identified above which was found to comply with the relevant requirements of the Council Directive 96/98/EC of 20 December 1996 as amended.*

**This certificate will expire on: 17 Jul 2019**



**This certificate does not allow to issue the Declaration of Conformity and to affix the mark of conformity (wheelmark ) to the products corresponding to this type. To this end, the production-control phase module (D, E or F) of Annex B of the Directive is to be complied with and controlled by a written inspection agreement with a notified body.**

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. BUREAU VERITAS is designated by the French Maritime Authority as a "notified body" under the terms of the French Regulations Division 140 Chapter 140-2. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.



## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION

- **1 Line-throwing Appliance** = 4 units " Ikaros Linethrower, Article N° 346 100"

*To conform to the requirements of the paragraph 7.1.1 of IMO Resolution MSC 48(66), each Line-throwing Appliance is constituted by a set of 4 units " IKAROS Linethrower, Article N° 346 100".*

<b>Trademark</b>	Nammo LIAB AB
<b>Type</b>	IKAROS Linethrower
<b>Reference</b>	346 100

Each unit "Ikaros Line-Thrower" includes its own Projectile with Cartridge and Line.

<b>Length</b>	<b>Diameter</b>	<b>Weight</b>	<b>Nylon Rope</b>
340 mm	230 mm	4 kg	300 meters of white polypropylene yarn with a breaking strength of not less than 2 kN

### 2. DOCUMENTS AND DRAWINGS

- Manufacturer's specification and drawings:

<b>Number</b>	<b>Title</b>	<b>Revision</b>	<b>Date</b>
DS 346100	IKAROS Linethrower	2	2015/08/24

- Manual(s) for installation use and maintenance.

*No departure from these documents is permitted without the prior consent of the society.*

### 3. TEST REPORTS

<b>DATE</b>	<b>TEST</b>	
22/11/96	Prototypetest,Ikaros Line 3641	Initial type tests
15/11/2004	---	Annual Tests 2004
15/11/2006	---	Annual Tests 2006
21/12/2007	---	Annual Tests 2007
07/11/2008	---	Annual Tests 2008
03/10/2013	---	Taking into account the amended IMO resolutions
02/04/2014	---	Additional Type Tests (Annual Tests 2013)
30/05/2014	---	Additional Type Tests (Linked to annual Tests 2013)
18/08/2015	---	Additional Type Tests (Linked to annual Tests 2013)
		Additional Type Tests

### 4. APPLICATION / LIMITATION

- As per requirements of regulations stated on front page of this certificate.
- Line-throwing appliances shall be replaced prior the expiry date marked on its casing but not later than **Four years** after date of manufacture.
- Each line-throwing appliances will be supplied with its instructions for use, inspections and on-board maintenance complying with Regulations stated on the front page of this certificate.
- To conform to the requirements of the paragraph 7.1.1 of IMO Resolution MSC 48(66), one Line-throwing Appliance is constituted by 4 units " Ikaros Linethrower, Article N° 346 100".

## **5. PRODUCTION SURVEY REQUIREMENTS**

This certificate alone does not allow the applicant to issue the Declaration of Conformity and to affix the mark of conformity (wheelmark) to the products corresponding to this type. To this end, the production-control phase module D "Production Quality Assurance" or E "Product Quality Assurance" or F "Product Verification" of Annex B of the Directive is to be complied with and controlled by a written inspection agreement with a Notified Body.

The manufacturer shall institute a quality control procedure to ensure that the Line-throwing Appliances are produced to the same standard as the approved prototype and shall keep records of any production tests carried out in accordance with instructions given in IMO Resolution MSC.81 (70) Part 2.

Each equipment or batch of equipment is to be supplied with its manual(s) for installation, use and maintenance.

## **6. MARKING OF PRODUCT**

Clear and concise directions of use, in English language, supported by illustrations, shall be printed indelibly on the signal body.

The signal body shall bear the following marks:

- Trade name
- SOLAS approved.
- Lot number
- Manufacture date
- Date of expiry
- Markings as per MED 96/98/EC ☒ YYYY/XX where YYYY is the number of the Notified Body undertaking surveillance module (where BV, 0062) and XX are the last two digits of year mark affixed.

In pursuance of the EU/US MRA+, and in accordance with the Council Decision 2004/425/EC of 21 April 2004, the manufactured item(s) can be affixed with the USCG conformity marking, subject to the authorization of the Conformity Assessment Body undertaking surveillance module.

## **7. OTHERS**

This approval is given on the understanding that the Society reserves the right to require check tests to be carried out at any time and that the manufacturer will accept full responsibility for informing Shipowners of proper methods of use, storing and maintenance of the line throwing appliance and the conditions of this approval.

This certificate supersedes EC Type Examination Certificate N° 06890/D0 EC, issued on 17/07/2014 by the Society.

**\*\*\* END OF CERTIFICATE \*\*\***

## RUSSIAN MARITIME REGISTER OF SHIPPING



## TYPE APPROVAL CERTIFICATE

Manufacturer

**Nammo LIAB AB**

Product\*

**Line-throwing Appliance****IKAROS LINE-THROWER (Article No. 346100)**

Code of nomenclature

**02080000MK**

This is to certify that on the basis of the survey and tests carried out the above mentioned item(s) complies(ly) with the requirements of Russian Maritime Register of Shipping.

*items 6.1, 6.21 of the part II of Rules for Equipment of Sea-going Ships, ed.2015. The product complies with the requirements of items 1.2, 7.1 of LSA Code (IMO Res. MSC.48(66) as amended by MSC.207(81), MSC.218(82)) and tested in accordance with recommendations of item 9 chapter I of IMO Resolution MSC.81(70) as amended.*

This Type Approval Certificate is valid until

**10.02.2020**

This Type Approval Certificate becomes invalid in cases stipulated in Rules for the Technical Supervision during Construction of Ships and Manufacture of Shipboard Materials and Products.

Date of issue

**10.02.2015**

Russian Maritime Register of Shipping



№

**15.10030.262**

(signature)

**R.Litvinets**

( name )

\*

Additional information see overleaf.

Technical data

***Line-throwing appliance with one line and one rocket.***

***Length of line - 300 m.***

***Throwing distance - not less than 230 m.***

***Breaking strength of line - not less than 2.0 kN.***

***Weight - 4000 g.***

***Height/Diameter - 340 mm / 230 mm.***

***The case is made of a water-resistant material.***

Technical documentation and the date of its approval by Russian Maritime Register of Shipping

***The set of technical documentation has been approved by letter No.262-381-121-32829 dd 26.01.2015.***

Product's specimen has been tested under the technical supervision of Russian Maritime Register of Shipping.

Report No. 15.00169.262 of 10.02.2015

Application and limitations

***It is intended for supply sea-going ships.***

***The equipment shall be replaced prior to expiry of date marked on the case.***

Type of document issued for product

***The product shall be delivered with Russian Maritime Register of Shipping Certificate in accordance with form 6.5.30 / 6.5.31.***

**15.10030.262**