

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
Lindesberg, Örebro Län, Sweden

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

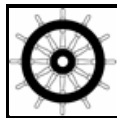
Further details of the equipment and conditions for certification are given overleaf.

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**

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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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



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:	2015-03-30
- SBTC 15-0084P01: Temperature cycling	2015-03-04
- SBTC 15-0084P02: Immersion test	2015-03-31
- SBTC 15-0084P03: Salt water spray	2015-03-27
- SBTC 15-0084P04: Drop test	2015-03-04
- SBTC 15-0084P05: Temperature /Humidity	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.