

TYPE APPROVAL CERTIFICATE

This is to certify:**That the**

with type designation(s)
Ikaros line thrower

Issued to

Hansson PyroTech AB
Lindesberg, Örebro Län, Sweden

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**

for **DNV GL**

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

DNV GL local station: **Stockholm**

Approval Engineer: **Tessa Bieber**

Mårten Schei-Nilsson
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



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:	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: **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