

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Buoyant smoke signals (pyrotechnics)**with type designation(s)
Ikaros MOB Mk IV Smoke signal

Issued to

Hansson PyroTech AB
Lindesberg, Örebro Län, Sweden

is found to comply with

Application :**The self-activating smoke signal approved by this certificate is accepted for installation on all vessels classed by DNV GL.****This certificate is recognized by Transport Canada.**Issued at **Høvik** on **2019-05-22**for **DNV GL**This Certificate is valid until **2024-05-21**.DNV GL local station: **Gothenburg**Approval Engineer: **Nathaniel Frithiof**

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.



Job Id: **262.1-030237-1**
Certificate No: **TALB000002R**

Product description

"Ikaros MOB Mk IV Smoke signal"

lifebuoy self-activating smoke signal. The smoke signal is producing smoke for at least 15 minutes.

Tested with drop height 60 m.

Design weight: 4.5 kg

Body colour: Yellow

The smoke signal can be combined with the "Ikaros MOB Mk IV Light signal", the complete unit will then be called Ikaros "MOB Mk IV Light and Smoke signal".

Application/Limitation

The design assessment is based on IMO Res. MSC.48(66), as amended by IMO Res. MSC.207(81), IMO Res. MSC.218(82) and the Canadian Life Saving Appliance Standard – TP14475 E , Part I, Ch. III, item 3.1.4.

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

Each lifebuoy is not to be stowed at a height above the waterline exceeding 60 m.

Expiration date not to exceed 4 years after date of manufacture.

Type Approval documentation

Checklists and reports:

Form no.	Rev.	Title	Date
TA 401		Type approval assessment report	2018-11-21

Technical documentation:

Drawing no.	Rev.	Title	Date
SBTC 15-0085R		Test record (Temp. cycling, salt & vibration)	2015-03-30
SBTC 15-0074		Test record (60 m drop and 30 cm wave test)	2015-04-13
		MOB smoke - Evaluation and test report (IMO MSC/Circ.980)	2015-08-19
DS 345205	1	Document structure (technical documentation)	2018-05-29
PP 15-04		Test program	2015-04-14

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.323(89) and the Canadian Life Saving Appliance Standard – TP14475 E , Part II, Ch. 4.

Marking of product

The product is to be marked with name and address of manufacturer, type designation, date of manufacture (month and year), date of expiry, lot number and operational restrictions.

The instructions for operating the pyrotechnic distress signal are to be permanently marked on the casing, or the signal is to carry a diagram clearly showing the manner of operating the signal.

All markings are to be provided in both English and French translations.



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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 after 2 years and again after 3.5 years. The arrangement is to be in accordance with procedure described in DNVGL-CP-0338 Section 4.