



TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MERB000046X
Revision No:
1

This Certificate is issued by DNV UK Limited based on authorisation of the Maritime & Coast Guard Agency (MCA) as an UK Approved Body to undertake conformity assessments on marine equipment in accordance with the requirements of the Merchant Shipping (Marine Equipment) Regulations 2016 as amended.

This is to certify:

That the Lifebuoys self-activating smoke signals

with type designation(s)
IKAROS MOB Smoke Signal MKIV

Issued to
Hansson PyroTech AB
Lindesberg, Sweden

is found to comply with the requirements in the following Regulations/Standards:
Regulation **MSN 1874 Amendment 7**,
item No. UK/1.3. SOLAS 74 as amended, Regulation III/4, III/7, III/34 & X/3, LSA Code, 2000 HSC Code 8 and IMO MSC.1/Circ.1628

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

This Certificate is valid until **2028-12-17**.

Issued at **London** on **2024-01-17**

DNV local unit:
Finland CMC



for **DNV UK Ltd.**

Approval Engineer:
Roland Priebe

Approved Body No.: **0097**

Christine Mydlak-Röder
MER Service Responsible



**Maritime &
Coastguard
Agency**

UK Approved Body Authorised
by the MCA

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with the approved body named on this certificate.
During the period of validity of this certificate the applicable regulations (international conventions and the relevant resolutions and circulars of the IMO) and testing standards may change, therefore the product conformity may need to be re-assessed by the Approved Body.
"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-control phase module (D, E or F) of Schedule 2 of the Merchant Shipping (Marine Equipment) Regulations 2016, as amended is fully complied with and controlled by a written inspection agreement with an approved body. In case limitations of use apply, these should be indicated in the Annex.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

'IKAROS MOB Smoke Signal MKIV'

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

Tested with drop height: 60 m
 Design weight: 4.5kg
 Body colour: Yellow

The smoke signal can be combined with the 'IKAROS MOB Light Signal MKIV', the complete unit will then be called Ikaros 'IKAROS MOB Light & Smoke Signal MKIV'.

Application/Limitation

Approved for use as lifebuoy self-activating smoke signal.

Acceptable lifetime: Expiration date not to exceed 48 months after month of manufacture.

The design assessment is based on IMO Res. MSC.48(66) as amended by IMO Res. MSC.207(81) and IMO Res. MSC.218(82).

The lifebuoy self-activating smoke signal is not to be stowed at a height above the waterline exceeding 60 m. Else a drop test shall be performed to verify correct working at installation heights of more than 60 metres.

Production and installation testing shall be carried out according to IMO Res. MSC.81(70), Pt. 2, Ch.4 and in compliance with ISO 15736:2006 A.2.4.

Each product is to be supplied with its manual for installation, use and maintenance.

Type Examination documentation

| Drawing No | Rev. | Title | Date |
|---------------|------|---|--------------------------|
| 620130 | 5 | Igniter unit assembly | 2013-02-27 |
| 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) | 2015-03-30 2015-04-02 |
| 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 Life-Saving Appliances, IMO Res. MSC.81(70), Part 1, including IMO Res. MSC.200(80), IMO Res. MSC.226(82) and IMO Res. MSC.323(89) and production and inspection tests iaw ISO 15736:2006.

Marking of product

The product is to be marked in accordance with ISO 15736:2006 item 4.3, LSA Code 1.2.2.9 and 1.2.3, the UK Mark of Conformity (see first page).

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