



# TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:  
**MERB00005F2**  
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 Buoyant smoke signals (pyrotechnics)**

with type designation(s)  
**IKAROS Buoyant Smoke 3 Minute**

Issued to  
**Hansson PyroTech AB**  
**Lindesberg, Sweden**

is found to comply with the requirements in the following Regulations/Standards:  
Regulation **MSN 1874 Amendment 9**,  
**item No. UK/1.10. SOLAS 74 as amended, Regulation III/4, III/7, III/34 & X/3 and LSA Code I, II, III and IMO MSC.1/Circ.1629.**

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

This Certificate is valid until **2029-05-15**.

Issued at **London** on **2024-08-19**

DNV local unit:  
**Finland CMC**



for **DNV UK Ltd.**

Approval Engineer:  
**Michael Oberländer**

Approved Body No.: **0097**

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**Mydlak Röder, Christine**  
**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 Buoyant Smoke 3 Minute”  
 buoyant smoke signals producing orange smoke for at least 3 minutes.

Design weight: 540 g

**Application/Limitation**

Approved for use as Buoyant smoke signals (pyrotechnics).

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

Liferaft drop test has to be performed before installation on liferafts.

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).

Production shall be tested in accordance with IMO Res. MSC.81(70), Part 2, Ch.4 and ISO 15736:2006 A.2.3.

**Type Examination documentation**

The following documentation is basis for the DNV approval:

Documents	Date
Drawings as listed in “Document structure”, No. DS 342130 Rev. 3	2024-02-14
Prototype test reports witnessed by Bureau Veritas	2015-03-30~04-02 & 2015-08-17 2013-09-30~10-02 2012-05-29~06-01 2011-08-16~18
Temperature cycling test and Salt spray test report No. SBTC 15-0082R by Bofors Test Center, Sweden	2015-03-30
Wave test report No. SBTC 15-0070 by Bofors Test Center, Sweden	2015-04-13
Laboratory measurements report No. TR 15-007 by Nammo LIAB, Sweden	2015-04-08

**Tests carried out**

Tests are documented in accordance with recommendation on testing of Lifesaving 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).

**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 and 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.