

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 Buoyant smoke signals (pyrotechnics)

with type designation(s)

IKAROS Buoyant Smoke Signal, Orange

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/1.10. SOLAS 74 as amended, Regulation III/4, III/34 & X/3 and LSA Code

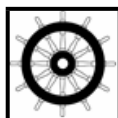
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2024-07-03**.

Issued at **Høvik** on **2019-07-04**

DNV GL local station:
Sweden CMC

Approval Engineer:
Jasna Jovic-Lainis



Notified Body
No.: **0575**

for **DNV GL AS**

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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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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 Buoyant Smoke Signal, Orange"
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: 4 years

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).

A statistically adequate sample of the production shall be tested in accordance with IMO Res. MSC.81(70), Part 2, Ch.4.

Type Examination documentation

The following documentation is basis for the DNV GL approval:

Documents	Date
Drawings as listed in "Document structure", No. DS 342130 Rev. 2	2019-04-05
Prototype test reports witnessed by Bureau Veritas	2015-03-30~04-02 and 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, 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.