

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Buoyant smoke signals (pyrotechnics)**with type designation(s)
JHB-4

Issued to

Huahai Marine Signals Manufacturing Co., Ltd.
Haimen, 100, Chinais found to comply with
SOLAS 74 as amended, LSA Code as amended. IMO Resolution MSC.81(70) as amended**Application :****Approved for use as Buoyant smoke signals (pyrotechnics).****This certificate is recognized by Transport Canada.**This Certificate is valid until **2026-01-26**.Issued at **Hamburg** on **2021-01-27**DNV GL local station: **Nantong CMC**for **DNV GL**Approval Engineer: **Michael Oberländer**

Jörg Kallies
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: **262.1-020789-2**
Certificate No: **TALB000000E**
Revision No: **1**

Product description

"JHB-4" is a buoyant smoke signal, which when activated emits smoke of a highly visible colour for a period of not less than 3 min when floating in clam water.

Application/Limitation

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) and Canadian Lifesaving Appliance Standard TP 14475E, Part I Ch.III.

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

Type Approval documentation

Certification in accordance with Class Programme DNVGL-CP-0338, September 2018.

Test report from GL Nantong dated 2013-06-18 to 2013-07-31

Technical drawings JHB-4-01-00 to JHB-4-5.

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) and IMO Res. MSC.323(89).

Marking of product

The product is to be permanently marked with name and address of manufacturer, type designation, brief instructions or diagrams clearly illustrating the use of the product, month and year of manufacturer, lot number and expiry date.

The instructions for operating the buoyant smoke signal are to be permanently marked directly on its casing and shall be in both English and French, as per "Procedures For Approval of Life-Saving Appliances and Safety Systems, Equipment and Products", TP 14612E [2.2.1.3].

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/s listed in this certificate is/are 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.