

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Emergency Towing Arrangement**with type designation(s)
Tongue type chain stopper 76

Issued to

China National Shipbuilding Equipment & Materials (East China) Co., Ltd.
SHANGHAI SHANGHAI, China

is found to comply with

IMO Resolution MSC 35 (63) of 20 May 1994**DNV GL rules for classification – Ships****OCIMF's Recommendations for Equipment Employed in the Bow Mooring of Conventional Tankers at Single Point Moorings, Fourth Edition May 2007****Application :****Chain stopper for Emergency Towing and Single Point Mooring as stated on page 2 of this certificate for tankers of any size.****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**This Certificate is valid until **2022-04-18**.Issued at **Høvik** on **2017-04-19**DNV GL local station: **Shanghai**for **DNV GL**Approval Engineer: **Chi Wan Bang**

Aldo Matteucci
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.

Product description

Tongue type chain stopper 76 with drawing No. 241PH-011-08:

For Emergency Towing:

- Safe Working load (SWL): 2 000kN (equivalent to 204 tonnes)

For Single Point Mooring:

- Safe Working load (SWL): 350 tonnes

The detailed information of the chain stopper is described in the drawing no.: 241PH-011-08 dated 2017.04.12 as well as the detailed drawings from Type Approval Documentation.

Application/Limitation

- The connection and support of the chain stopper to the ship's structure are not included in this approval and to be covered by separate approvals.
- If installed on DNVGL vessels, a DNVGL product certificate is to be issued for each product and the following will apply:
 - The manufacturer is required to have a DNVGL surveyor witness all important production and tests as required.
 - Non-destructive testing is to be carried out to the attending surveyor's satisfaction.
 - All welding is to be carried out by approved welders and according to approved welding procedures.

For Emergency Towing:

- Materials for load carrying parts are to be delivered with required material certificates in accordance with Pt.5 Ch.5 Sec.1 [4.2] from the mentioned Rules.

For Single Point Mooring:

- Materials for load carrying parts are to be delivered with required material certificates in accordance with Pt.6 Ch.5 Sec.12 [2.1] from the mentioned Rules.
- The arrangement and positioning of the above component shall comply with the requirements in Pt.6 Ch.5 Sec.12 [4] from the mentioned Rules and OCIMF's Recommendations.

Type Approval documentation

Tests carried out

Prototype test report (Report No.C03-01) dated 2017-03-30 and witnessed by DNVGL Shanghai Station.

Marking of product

The chain stopper is to be marked with the SWL, manufacturers name or trademark and type number identification.

Periodical assessment

For retention of the Type Approval, DNVGL surveyor shall perform a survey every second year and before expiry date of this certificate in order to verify that the conditions of the type approval are complied with.

END OF CERTIFICATE