DNV·GL

Certificate No:
TAS000022M

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Emergency Towing Arrangement

with type designation(s)
Towing Bollard

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

is found to comply with
DNV GL rules for classification – Ships
IMO Resolution MSC 35 (63) of 20 May 1994
OCIMF Mooring Equipment Guidelines (MEG4), Fourth Edition 2018

Application :

Towing Bollard as strong point for Emergency Towing, Escort and Pullback as stated on page 2 of this certificate for tankers of 50 000 tonnes deadweight and above - Safe Working Load 2 000 kN

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Issued at **Høvik** on **2019-07-23**
This Certificate is valid until **2024-07-22**.
DNV GL local station: **Shanghai CMC**

Approval Engineer: **Chi Wan Bang**

for **DNV GL**

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.

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Job Id: **262.1-018453-2**
Certificate No: **TAS000022M**

Product description

Towing Bollard as strong point for Emergency Towing, and Escort and pullback:

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

Application/Limitation

- The connection and support of the above components to the ship's structure are not included in this approval and to be covered by separate approvals.
- If installed on DNV GL vessels, a DNV GL product certificate is to be issued for each product and the following will apply:
  - The manufacturer is required to have a DNV GL 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.
  - Materials for load carrying parts are to be delivered with required material certificates in accordance with DNVGL-RU-SHIP Pt.5 Ch.5 Sec.1 [4.2].
  - Materials specified to other standards than DNV GL Rules shall fulfill the relevant corresponding rules requirements in Pt.2.
  - Where Charpy V-notch impact testing is not specified by the materials standard, materials of welded parts shall be Charpy V-notch tested and impact energy is to be minimum 27J at 0 deg C accorrding to DNVGL-RU-SHIP Pt.5 Ch.5 Sec.2 [2.2.5].
  - The arrangements and positioning of the above components shall comply with the requirements in IMO Resolution MSC.35(63), DNVGL-RU-SHIP Pt.5 Ch.5 Sec.2 [2.2] and OCIMF's MEG4.
  - It is recommended that strong points are kept smooth on the contact surfaces or inserts are used to avoid undue abrasion of towlines according to OCIMF's MEG4.

Type Approval documentation

Tests carried out

Strength test of Towing Bollard (Drawing No. 212 PH-009-01-00) was carried out in the presence of surveyors from DNVGL with Report No. C15-J08 dated March 12, 2015.

Marking of product

The load bearing components are to be marked with the SWL, manufacturers name or trademark and type number identification.

Each fitting should be clearly marked by bead weld outline with its SWL. The SWL should be expressed in tonnes (letter 't') to avoid any confusion.

Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the approval are complied with. Reference is made to DNVGL-CP-0338.

END OF CERTIFICATE