

TYPE EXAMINATION CERTIFICATE

This is to certify:

That the Mooring and Towing Equipment

with type designation(s)
PH2101-A, PH2102-A

Issued to

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

is found to comply with
OCIMF Mooring Equipment Guidelines, Third Edition 2008

Application :

Escorting and Pull-back system as stated on page 2 of this certificate for tankers tankers over 20 000 but less than 50 000 tonnes deadweight - Safe Working Load 1 000 kN, and 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 **2017-12-18**

This Certificate is valid until **2022-12-17**.

DNV GL local station: **Shanghai**

for **DNV GL**

Approval Engineer: **Chi Wan Bang**

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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 Examination Certificate and not to the approval of equipment/systems installed.



Product description

Escorting and Pull-back system PH2101-A in accordance with drawing No.: 212PH-004-00:

- Safe Working load (SWL): 1 000kN (equivalent to 102 tonnes)

The detailed information of the towing bollard and chock described in the drawing no.: 212PH-004-00 dated 2007-06 as well as the detailed drawings from Type Approval Documentation.

Escorting and Pull-back system PH2102-A in accordance with drawing No.: 212PH-003-00:

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

The detailed information of the towing bollard and chock described in the drawing no.: 212PH-003-00 dated 2007-06 as well as the detailed drawings from Type Approval Documentation.

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.
- The arrangements and positioning of the above components shall comply with the requirements in OCIMF's MEG 3rd.
- According to the referenced standard a high modulus synthetic fibre rope is understood applied.
- If a DNVGL product certificate is to be issued for each product, the following will apply:
 - Grades of material as stated on the approved drawings are to be delivered with certificates minimum equal to NS-EN 10204 3.1.
 - 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.

Type Examination documentation

Tests carried out

Marking of product

The Escorting and pull-back system is to be marked with the manufacturer's name or trademark and type number identification.

Certificate Retention Survey

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