

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Expansion bolts for flange connection

with type designation(s)
EBC

Issued to

Nord-Lock AG
St. Gallenkappel, SG, Switzerland

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.4 Rotating machinery – power transmission

Application :

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

Issued at **Hamburg** on **2018-09-17**

This Certificate is valid until **2023-09-16**.

DNV GL local station: **Augsburg**

Approval Engineer: **Olaf Richter**

for **DNV GL**

Burkhard Lilienthal
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

Expansion bolts, pre-tensioned with conical sleeve

Application/Limitation

Approved nominal diameters 28 ... 155 mm.

Application in main and auxiliary machinery as long as situated inside the ship's hull.

May be used instead of conventional fitted bolts for flange connections, detailed selection as per DNVGL RU-SHIP Pt.4 Ch.4 Sec.1 2.3.

Type Approval documentation

Marking of product

Manufacturer's name or trademark. Type number designation.

Periodical assessment

For retention of the Type Approval, a DNV GL surveyor shall perform an assessment after 2 years and after 3.5 years to verify that the conditions of the type approval are complied with. A renewal assessment will be performed at renewal of the certificate.

The objective of the Periodical Assessment is to verify that the conditions for the Type Approval are not altered since the Type Approval Certificate was issued. The main scope of the Periodical Assessment will normally include:

- Verification of the Type Approval applicant's production and quality system w.r.t. ensuring continued consistent production of the Type Approved products at the Type Approval applicant's own premises and at other companies that are given the responsibility for manufacturing of the products
- Review of the Type Approval documentation and that this is still used as basis for the production
- Review of possible changes to the design, the material and the performance of the product
- Verification of the product marking

In cases where the Type Approved product is manufactured at other companies, the Periodical Assessment shall verify that the Type Approval applicant has a quality control system for consistent production at their licensees/subcontractors. Furthermore Periodical Assessment shall be carried out randomly at these companies.

When a Type Approved product is manufactured at other companies, the Type Approval applicant takes the sole responsibility for the conformity of the product to the applicable requirements.

END OF CERTIFICATE