

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Bending Compliant Couplings**with type designation(s)
RIGIFLEX-N size 35 - 408, RADEX-N size 20 to 338

Issued to

KTR Systems GmbH
Rheine Nordrhein-Westfalen, Germanyis found to comply with
DNV GL rules for classification – Ships
DNV GL rules for classification – High speed and light craft
DNVGL-OS-D101 – Marine and machinery systems and equipment, Edition July 2015**Application :****Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.**Issued at **Hamburg** on **2017-06-12**for **DNV GL**This Certificate is valid until **2022-06-11**.DNV GL local station: **Essen**Approval Engineer: **Erich Rüde**

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.



Job Id: **262.1-010788-4**
Certificate No: **TAM00000HZ**

Product description

RIGIFLEX-N Steel lamina coupling size 35 - 408.
RADEX-N Steel lamina coupling size 20 to 338.

Application/Limitation

The approval is valid for auxiliary duty.

The couplings are approved for nominal torques as given in technical data in the KTR coupling catalogue 04/2017 (pages 168 to 182). Operating factor S_B for marine propulsion 2.5 to 3.0 (Plant dependant, actual factor to be decided by KTR). Operating factor for auxiliary duty according to KTR catalogue 04/2017.

Approval for ICE class notation to be considered in each case.

Type Approval documentation

Tests carried out

Test Report No. 97306070 RIGIFLEX-N 120 Prototype testing.
Technische Prüfung der RADEX-N, Grösse 70. Versuch Nr. 71/03.96/29.

Marking of product

The product to be marked with manufacturer's name or trademark and type number identification.

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.

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.

Other conditions

DNV GL product certificate is not required for auxiliary machinery installation with power ratings up to 500 kW and rated torque less than 5 kNm.

The type approval does not cover connection to external shaft.

This Type Approval Certificate TAM00000HZ is replacing following DNV Certificates:

- DNV Type Approval Certificate No. M-12339
- DNV Type Approval Certificate No. M-12341

END OF CERTIFICATE