

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Elastic Couplings**

with type designation(s)

**BoWex-Elastic, HE, HEW, Monolastic, HEW Compact, HEG**

Issued to

**KTR Systems GmbH****Rheine Nordrhein-Westfalen, Germany**

is 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. The couplings are approved for auxiliary purpose.**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**

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**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

Highly flexible couplings.

## Application/Limitation

The couplings are approved for auxiliary purpose, for the nominal torques and maximum RPM's and with other characteristics according to the data given in general KTR catalogue 04/2017 chapter Bowex-Elastichighly flexible flange couplings (pages 98 to 99 and 202 to 213) with the following limitations:

$T_{Kmax}$  is limited to  $1.3 \times T_{KN}$  for couplings with shore hardness 40  
 $T_{Kmax}$  is limited to  $1.4 \times T_{KN}$  for couplings with shore hardness 45  
 $T_{Kmax}$  is limited to  $1.5 \times T_{KN}$  for couplings with shore hardness 50, 65 and 70.

## Type Approval documentation

### Tests carried out

## 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. Couplings used between diesel engines and generator to be inspected for wear each 1000 hours.

This Type Approval Certificate TAM00000J2 is replacing following DNV Certificate:

- DNV Type Approval Certificate No. M-12344

END OF CERTIFICATE