



DET NORSKE VERITAS

TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. M-10832
This Certificate consists of 3 pages

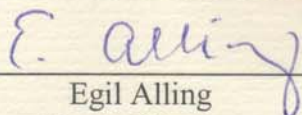
This is to certify that the
Bending Compliant Couplings
with type designation(s)
RADEX-N size 20 to 220

Manufactured by
KTR Kupplungstechnik GmbH
RHEINE, Germany

is found to comply with
Det Norske Veritas' Rules for Classification of Ships/High Speed and Light Craft

Application
The couplings are approved for propulsion and auxiliary duty.

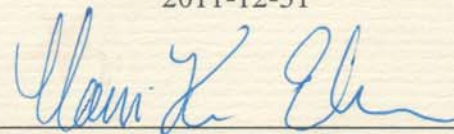
Place and date
Høvik, 2007-11-27
for DET NORSKE VERITAS AS


Egil Alling
Head of Section



Local Office
DNV Essen

This Certificate is valid until
2011-12-31


Hans-Kristian Eriksen
Surveyor

Notice: 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.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



Cert. No.: M-10832
File No.: 714.100
Case no.: 262.1-004552

Product description

RADEX-N Steel lamina coupling.

Application/Limitation

The approval is valid for propulsion and auxiliary duty.

The couplings are approved for nominal torques as given in data sheet for the RADEX-N couplings in KTR coupling catalogue 03/2007.

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 according to KTR catalogue 03/2007.

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

Type Approval documentation

KTR coupling catalogue 03/2007 and drawings mentioned in covering letter dated 03-09-02.

Tests carried out

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.

Certificate retention survey

For retention of the Type Approval, DNV shall perform a survey every second year and before expiry date of this certificate to verify that the conditions of the type approval are complied with.



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Other conditions

The connection to driving and driven component is not included in this approval.

The product certification may, for auxiliary duty, be waived for power ratings up to 500 kW and rated torque less than 5 kNm, under the condition that the product is marked with its type number identification.

END OF CERTIFICATE