

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Hoisting, Rotation and Pipehandling Equipment**with type designation(s)
BONDURA® PIN SYSTEM

Issued to

Bondura® Technology AS
, Vardheivegen 56b, 4340 Bryne, Norway

is found to comply with

DNVGL-OS-E101 – Drilling plant, Edition July 2015**DNV Standard for Certification No. 2.22 "Lifting Appliances"****API Spec 8C/ISO 13535, Specification for Drilling and Production Hoisting Equipment (PLS1), 4th Edition****API Spec 8C/ISO 13535, Specification for Drilling and Production Hoisting Equipment (PLS2), 4th Edition****Application :****See "DESIGN, FABRICATIONS, INSTALLATION AND MAINTANANCE SPECIFICATION OF BONDURA BOLT SYSTEM", Rev. H, 20.10.2004 and 24.06.2013**Issued at **Høvik** on **2017-11-17**This Certificate is valid until **2022-11-16**.for **DNV GL**DNV GL local station: **Stavanger**Approval Engineer: **Chenyu Sun**

Inger-Helene Hals
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: **262.1-007936-5**
Certificate No: **TAD00000V4**

Product description

The Bondura® Technology AS pins are designed to replace existing conventional round bolts with the same diameter and similarly material quality. The dimensions and material quality shall be chosen in order to meet the safety factor, material requirements, fatigue and other design criteria applicable to the equipment where the pins are used. The Bondura® Technology AS pivot pins covers a range of sizes up to 500 mm diameter.

BONDURA® PIVOT PIN TYPE 3.1
BONDURA® PIVOT PIN TYPE 3.2
BONDURA® PIVOT PIN TYPE 3.3
BONDURA® PIVOT PIN TYPE 3.4
BONDURA® PIVOT PIN TYPE 4.4
BONDURA® PIVOT PIN TYPE 6.1
BONDURA® PIVOT PIN TYPE 6.2
BONDURA® PIVOT PIN TYPE 6.6
BONDURA® PIVOT PIN TYPE 66.dual
BONDURA® PIVOT PIN TYPE BX
BONDURA® PIVOT PIN TYPE 3.6.dual
BONDURA® PIVOT PIN TYPE 6.6 LC
BONDURA® PIVOT PIN TYPE 3.3 LC
BONDURA® PIVOT PIN TYPE 6.2 LC

According to "Design, Fabrication, Installation and Maintenance Specification of Bondura® Pivot Pin System", date: 15.04.2013 and 24.06.2013.

Material Quality 1: High strength hardened steel
Material Quality 2: Corrosion high strength hardened steel
Material Quality 3: High strength induction steel with hard chrome surface
Material Quality 4: High impact alloyed structural steel
Material Quality 5: High breaking strength induction hardened steel with hard chrome surface

For traceability to this type certificate the products are to be marked with Bondura® technology AS sales order and item number.

Type Approval documentation

Certificate retention survey

For retention of Type approval, DNVGL Surveyor shall perform a survey every second and half year and before the expiry date of this certificate in order to verify that the conditions for the type approval are complied with.

Other conditions/Comments

- This document may be used as part of the documentation required to comply with European Union (EU) Directives referenced in PSA's Acts, regulations and provisions for the petroleum activities.
- The pins shall be furnished with an appropriate material certificate in accordance with the relevant standard, as specified above. No product certificate is required for the pins.

THIS CERTIFICATE REPLACES PREVIOUS TYPE APPROVAL CERTIFICATE NO. D-5176.

End of Certificate