

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Hoisting, Rotation and Pipehandling Equipment

with type designation(s)
500 short ton Bail for PTD500

Issued to

MHWirth AS
Kristiansand S, Norway

is found to comply with

DNVGL-OS-E101 – Drilling plant, Edition July 2015

DNVGL-SI-0166 – Verification for compliance with Norwegian shelf regulations, Edition July 2015

Application :

See next page.

Issued at **Høvik** on **2017-02-14**

This Certificate is valid until **2022-02-07**.

DNV GL local station: **Oslo Drilling Systems**

for **DNV GL**

Approval Engineer: **Axel Janson**

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Per Esvall
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: **262.1-025168-1**
Certificate No: **TAD00000MA**

Reference Standards

- [1] API Spec. 8C, Drilling and Production Hoisting Equipment (PSL1/PSL2), 5th Ed., April 2012
[2] F.E.M 1.001, Rules for the Design of Hoisting Appliances, 3rd Edition, October 1998

Product Description

500 short ton bail for MHWirth Top Drive PTD-500

Application/Limitation

<u>Design Parameter</u>	<u>Value</u>	<u>Equivalent</u>
API 8C Load Rating:	500 sT	4448 kN
Min. Design Temperature:	-20 °C	-4 °F
Safety Factor Applied (main structure):	2.25	
API 8C Product Specification Level:	PSL1	

Type Approval Documentation

Job Id: **262.1-025168-1**
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Material Specification

<u>Component</u>	<u>Material</u>	<u>Min Yield</u>	<u>Charpy Requirement</u>
Bail	Specification SA20-0001 Min. Material Grade 700	700 MPa	Min. 42 J @ -20 °C

Fabrication and Testing Procedures

Procedures related to NDT etc. are to be reviewed/approved by the DNV GL local surveyor.
Comprehensive material requirements are to be reviewed/approved by the DNV GL local surveyor.

Marking of Product

The equipment under this Type Approval shall be marked according to API Spec. 8C §10.

Other Conditions and Comments

- Materials shall be delivered with 3.1 certificates according to EN10204.
- This bail shall only be used as an integral part of top drive PTD500.
- The bail pins are not within the scope of this Type Approval.
- Each product are to be surveyed during fabrication in accordance with the requirements for equipment of Category I as defined in DNV GL's Offshore Standard DNVGL-OS-E101 Drilling Plant and in accordance with API Spec. 8C, followed by issuance of Product Certificate Form No. 20.92a.

Certificate Retention Survey

For retention of this Type Approval Certificate, DNV GL AS's representative shall carry out surveys every second year in accordance with DNV GL Type Approval Scheme DNVGL-CP-0338.

END OF CERTIFICATE