

Certificate

DNV·GL

Certificate No. **WF 1510134 HH**

This is to certify that Messrs.

Forum B + V Oil Tools GmbH

**Hermann-Blohm-Str. 2
20457 Hamburg**

has been granted on the base of the verification of the workshop's preconditions and of the proofs of qualification presented the

Quality Requirements for Welding

in accordance with the **DIN EN ISO 3834 - 2**

The range of application, if so, other considered Regulations, the responsible supervisor(s) as well as the period of the validity are indicated in the Annex of this certificate.

Approved procedures are acknowledged in the assigned supplements of the Annex.

Hamburg, 2015-08-21

DNV GL



Marcus von Busch



Ludger Hachmüller

Concerning the period of validity or the extension of approval and the duty to notify DNV GL SE if the preconditions change under which approval was granted, the statements given in the Rules for Welding are to be observed. Additional requirements, if any, in the covering letter are to be observed. The latest edition of the General Terms and Conditions of Germanischer Lloyd applies. DNV GL SE; Registered Office Hamburg, HRB 115442.

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Appendix to Certificate
WF 1510134 HH dated 2015-08-21

Messrs. **Forum B + V Oil Tools GmbH**
Hermann-Blohm-Str. 2
20457 Hamburg

has been approved for the procedures as specified in the supplements for the following range of application acc. to GL Rules:

- I. Welding of Machinery Components
- II. Welding of Structural Members

Range of Production/ Components: **To I. and II.: Production, Repair and Service of Pipe Handling Equipment**
(Entry only in case of special approvals)

Regulations also considered: ---

Supervisor:	Andreas Perner		
Certificate No.:	D-S-30453-1173-021128-020257IIW	issued:	2002-11-28
issued by:	SLV Hannover		
Deputy Supervisor:	Andreas Kirsch		
Certificate No.:	EWE 86/93	issued:	1993-06-07
issued by:	SLV Nord		

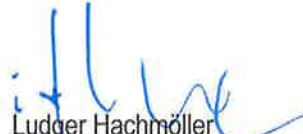
Part of the approval is our letter of approval ref. no. 058050-15/LHm of 2015-08-21.

Hamburg, 2015-08-21

Approval is valid until: **2018-08-31**

DNV GL


Marcus von Busch


Ludger Hachmoller

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Suppl.-No.: 01
to Certificate WF 1510134 HH

WPS-No.: see others

Messrs. **Forum B + V Oil Tools GmbH**

is certified on the basis of the test welds and tests supervised by DNV GL SE that these were carried out in accordance with the requirements of EN ISO 15614-1 with satisfactory results as follows:

Manual metal-arc welding with covered electrodes

Scope of testing

Welding process: 111 - Manual arc welding with covered electrode (SMAW)
Joint type: Butt welds, welded from both side with full penetration, multi-pass
Parent metal: 34CrNiMo6V
Test piece thickness: 30mm
Outside diameter: ---
Filler metal type: Covered electrode: ESAB OK 75.78 / EN 757 E 89 6 Z B 42 H5
Shielding gas / flux: ---
Current / polarity: Direct current (DC) +
Welding position: PC (horizontal-vertical)
Weld build-up: Multi-pass
Preheat: Preheat temperature min. 280°C min. Interpass temperature max. 350°C
Post-weld heat treatment: 530°C / holding time 1h per 25mm wall thickness / heating and cooling rate max. 100°C
Date of welding: 21.10.2010
Welders: Mr. Dirk Gampe
Other informations: WPS no.: WPS-01-2010-111/11.1/11.2/BW/PC/bs/nb/ml dated 11.02.2011

Range of application

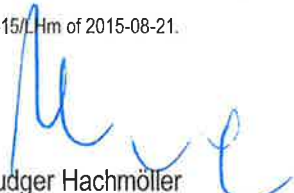
Parent metal(s): group 11.1 and 11.2 acc. to CR ISO 15608 like 34CrNiMo6V

Metal thickness(es) [mm]: 15,0 - 60,0
Outside diameter [mm]: >500
Welding positions: PC (horizontal-vertical)
Post-weld heat treatment: 530-540°C / holding time 1h per 25mm wall thickness / heating and cooling rate max. 100°C
Particularities, remarks: The regulations and recommendations of the manufacturers of the base- and filler materials for the welding have to be observed. Edge preparation and welding sequence, see WPS. Procedure test under consideration of API Spec. 8C and ASME Section IX / AWS D.1.1. MAN laboratory test report no: 2010/0817 dated 13.12.2010. Re-issue of certificate due to change of company name. Initial certificate no. WF 1110050 HH page 1, GL ref.-no.: 110356-10/LHm.
Design temperature: As for the base and filler material

Parts of this approval are the a. m. certificate, the above mentioned WPS, if any, and our letter of approval with ref.-no. 058050-15/LHm of 2015-08-21.

Hamburg, 2015-08-21

DNV GL


Ludger Hachmüller

DNV GL SE • P.O. Box 11 16 06 • 20416 Hamburg • Germany

Forum B + V Oil Tools GmbH
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20457 Hamburg

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Your reference	Your Letter of	Our reference	Extension	Date
		058050-15/LHm	+49 40 3 61 49-9206	2015-08-21

ISO 3834-2 Certification

Dear Mr. Kirsch,
Dear Mr. Perner,

Thank you for your always good cooperation.

Attached please find with Certificate WF 1510134 HH and Appendix the updated and extended DNV GL ISO 3834-2 certificate with the changed company name.

Based on the shop audit dated 13.08.2015 as well as the provided documents we confirm that the quality requirements according to ISO 3834-2 are fulfilled.

The certificate is valid until 2018-08-31.

In case of changing the welding supervisor we ask you for a short message.

Further please find attached the re-issued welding procedure certificate as supplement no. 01 to Certificate WF 1510134 HH also with the new company name.

The fees for the shop audit as well as for the issue of the certificates will be charged to you separately with our order no. 9057 15 59694.

Yours faithfully,

for DNV GL SE



Marcus von Busch



Ludger Hachmöller