

Certificate

DNV·GL

Certificate No. **WF 1510124 HH**

This is to certify that Messrs.

Futura Mécanique de Précision

**ZI La Naurais Bachaud
86530 Naintre
France**

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

Approval for Welding

in accordance with the

**Germanischer Lloyd Rules for Welding
(Rules for Classification and Construction,
II - Material and Welding Technology, Part 3 - Welding)**

The range of application, if applicable other regulations also considered, the responsible supervisor(s) as well as the period of validity are mentioned in the appendix to this certificate. Approved procedures are confirmed within the assigned supplements to the appendix.

Hamburg, 2015-08-03

DNV GL


Marcus von Busch


Dietmar Liebich

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 1510124 HH dated 2015-08-03

Messrs. **Futura Mécanique de Précision**
ZI La Naurais Bachaud
86530 Naintre
France

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

Welding of Pressure Vessels

Range of Production/
Components: ---
(Entry only in case of special
approvals)

Regulations also
considered: ---

Supervisor: **Mr. Eric Michalski**

Certificate No.: ---

issued by: ---

issued:

Deputy Supervisor: ---

Certificate No.: ---

issued by: ---

issued:

Part of the approval is our letter of approval ref. no. 026920-15/DLie of 2015-08-03.

Hamburg, 2015-08-03

Approval is valid until: 2018-01-31

DNV GL



Marcus von Busch



Dietmar Liebich

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Suppl.-No.: 01
to Certificate WF 1510124 HH

WPS-No.: 769 207 794/1A of 2013-12-26

Messrs.

Futura Mécanique de Précision

has been approved on the basis of the documents submitted for a procedure test supervised by other independent testing bodies approved by DNV GL, in accordance with the "Rules for Classification and Construction II, Material and Welding Technology, Part 3 - Welding" for the following welding procedure:

Tungsten inert gas arc welding of stainless steel pipes

Welding Details

Process: 141- Tungsten inert gas welding (GTAW)
Type of weld: Butt welds on pipe, welded from one side in multi-run technique
Welding equipment: Suited, in accordance with the instructions of the welding supervisor.
Welding data: According to the relevant welding procedure specification of the welding supervisor.
Welding consumables: Wire-gas combinations tested and approved by DNV GL with the relevant grade according to the base materials to be welded.

Edge preparation: Single V-butt weld, included angle 70°, root gap 1-2 mm, see WPS.

Weld build-up: Multi-layer, see welding procedure specification.

Welding heat treatment: Without preheating.
Interpass temperature max. 150°C.

Welders: Welders recognised by DNV GL with valid welder's test certificates in the respective test group.

Others: PQR no.: PTR 13 B 081 dated. 2014-01-31

Range of application

Base material(s): Austenitic stainless steel grade 304L. Other similar stainless steel grades with consent of Germanischer Lloyd.

Wall thickness(es) [mm]: 3.0 - 6.3

Pipe diameter [mm]: 9 - 35.8

Positions: Butt welds in flat position (PA).

Heat treatment condition: As welded.

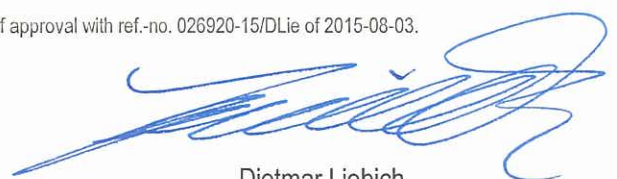
Design temperature: As for the parent metal and filler metal.

Particularities, remarks: Tungsten inert gas arc welding with protection against wind and weather.
For welding of pressure vessels the validity of the welding procedure qualification is one year. It can be prolonged with the help of positive test results of periodical production tests or results of non destructive examinations.

Parts of this approval are the a. m. certificate, the above mentioned WPS, if any, and our letter of approval with ref.-no. 026920-15/DLIE of 2015-08-03.

Hamburg, 2015-08-03

DNV GL



Dietmar Liebich