

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

Oostendorp Apparatenbouw BV
Attn. Mr. Gerrit van Os
Voor de Kijkuit 1
4001 HG Tiel
Netherlands

DNV GL SE
P.O. Box 11 16 06
20416 Hamburg
Brooktorkai 18
20457 Hamburg/Germany

Phone +49 40 36149-0
Fax +49 40 36149-200
headoffice@dnvgl.com
www.dnvgl.com

Your reference	Your Letter of	Our reference	Extension	Date
	2015-11-19	075341-15/DLie	+49 40 3 61 49-7378	2015-12-17

- ① Updated extension of welding workshop approval
- ② Welding Procedure Tests

Dear Mr. Gerrit van Os,

Enclosed, please find with Appendix Rev. 02 to Certificate WF 0910252 HH our updated extension of the welding shop approval for welding of pressure vessels, steam boilers, machinery components, hull structures and pipelines and the confirmed welding procedure tests with suppl. no. 05 – 08 to Certificate WF 0910252 HH.

① Welding Shop Approval

The workshop approval is furthermore valid until 2018-03-31, provided that for welding of pressure vessels, steam boilers and pipelines pipe class I and II yearly production tests and/or non-destructive tests are carried out to ensure that the conditions governing procedure qualification testing are being met.

② Welding Procedure Tests

In view of the test welding and the mechanical tests performed under the supervision of our local Surveyor, we confirm with supplement no. 05 and 06 to Certificate WF 0910252 HH the welding procedure tests.

Exceptionally we could recognise with Suppl.-No. 07 and 08 the welding procedure tests performed under the supervision of an independent authority.

For a possible intended recognition of the welding procedures with PQR no's: PQR 483, 262 and 450 for welding of pressure vessels and steam boilers please submit the WPS, the initial welding procedure tests and the belonging topical production test results.

The fees for updated extension of the welding shop approval, the supervision / recognition of the welding procedure tests and for the issuance of the certificates will be charged to you separately under accounting no.: 1360 15 35416 142.

Yours faithfully,

for DNV GL SE



Marcus von Busch



Dietmar Liebich



Certificate

DNV-GL

Appendix Rev. 02 to Certificate
WF 0910252 HH dated 2009-07-28

Messrs.

Oostendorp Apparatenbouw BV

Voor de Kijkuit 1
4001 HG Tiel
Netherlands

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

- I. Welding of Hull Structures
- II. Welding of Steam Boilers
- III. Welding of Pressure Vessels
- IV. Welding of Pipelines
- V. Welding of Machinery Components

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

To IV. Piping systems class I - III according to GL Rules - Code I/1/2 - Section 11

Regulations also
considered:

Supervisor: **Mr. G. van Os**
Certificate No.: **NL / IWE / 0246**
issued by: **Netherlands Institute of Welding**

Deputy Supervisor: **Mr. T.W.G. Kuijpers**
Certificate No.: **NL IWT 1211**
issued by: **Netherlands Institute of Welding**

issued: **2002-12-12**

issued: **2009-09-25**

Part of the approval is our letter of approval ref. no. 075341-15/DLie of 2015-12-17.

Hamburg, 2015-12-17

Approval is valid until: **2018-03-31**

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 respective latest edition of GL's Classification Rules is applicable. The latest edition of the General Terms and Conditions of Germanischer Lloyd applies. DNV GL SE, Registered Office Hamburg, HRB 115442.

Certificate

DNV-GL

Suppl.-No.: 05
to Certificate WF 0910252 HH

WPS-No.: LTI WPQ-609 rev. A of 2015-09-05

Messrs.

Oostendorp Apparatenbouw BV

has been approved on the basis of the welding procedure test supervised by DNV GL SE and specified in a welding procedure specification (see WPS-No.), 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 duplex steel pipes (1.4462) to austenitic steel pipes (1.4404)

Welding Details

Process: 141 - Tungsten inert gas arc welding (TIG)
Type of weld: Butt welds, welded from one side in multi-run technique without backing.
Welding equipment: Suited, in accordance with the instructions of the welding supervisor.
Welding data: As for welding procedure test, see relevant welding procedure specification.
Welding consumables: Wire-gas combinations tested and approved by DNV GL with the relevant grades according to the base materials to be welded.

Edge preparation: Single-V, included angle, root gap and root face, see relevant welding procedure specification.

Weld build-up: Multilayer

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

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

Others: Tungsten inert gas welding with protection against wind and weather.
For the results see test report WPQR no. 609 dated 2015-07-29.

Range of application

Base material(s): Duplex steel X2CrNiMoN22-5-3 (material no.: 1.4462) to austenitic steel 316L (material no.: 1.4404)

Wall thickness(es) [mm]: 4.4 - 17.4

Pipe diameter [mm]: ≥ 30.2

Positions: PA, PC, PF

Heat treatment condition: As welded.

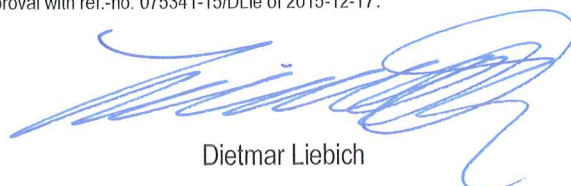
Design temperature: As for base and filler material.

Particularities, remarks: The regulations and recommendations of the manufacturers of the base and filler material for the welding of austenitic steels to duplex steels have to be observed. The validity of the welding procedure qualification for pressure vessels, steam boilers and pipelines pipe class I and II is one year. It can be prolonged with the help of positive test results of production test pieces or results of non-destructive tests.

Parts of this approval are the a. m. certificate, the above mentioned WPS, if any, and our letter of approval with ref.-no. 075341-15/DLie of 2015-12-17.

Hamburg, 2015-12-17

DNV GL



Dietmar Liebich

Certificate

DNV·GL

Suppl.-No.: 06
to Certificate WF 0910252 HH

WPS-No.: LMI WPQ-608 Rev. A of 2015-08-05

Messrs.

Oostendorp Apparatenbouw BV

has been approved on the basis of the welding procedure test supervised by DNV GL SE and specified in a welding procedure specification (see WPS-No.), 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 austenitic steel pipes (1.4404) to structural steel S355 (1.0577)

Welding Details

Process: 141 - Tungsten inert gas arc welding (TIG)
Type of weld: Multi layer, welded from one side.
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 grades according to the base materials to be welded.

Edge preparation: Single-V, included angle, root gap and root face, see relevant welding procedure specification.

Weld build-up: Multilayer

Welding heat treatment: Without preheating, in any case remove moisture. Heat input according to the welding procedure test. Interpass temperature max. 150°C.

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

Others: Tungsten inert gas welding with protection against wind and weather.
For the results see test report WPQR no. 608 dated 2015-08-21.

Range of application

Base material(s): Austenitic steel 316L (material no.: 1.4404) to structural steel S355J2 (material no.: 1.0577)

Wall thickness(es) [mm]: 4.4 - 17.4

Pipe diameter [mm]: ≥ 30.2

Positions: PA, PC, PF

Heat treatment condition: As welded.

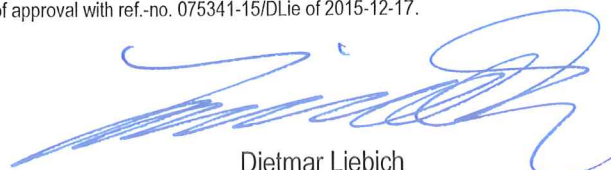
Design temperature: As for base and filler metal.

Particularities, remarks: The instructions and recommendations of the manufacturers of the base- and filler materials for welding of austenitic steel 1.4404 to higher-strength structural steel have to be observed. The validity of the welding procedure qualification for pressure vessels, steam boilers and pipelines pipe class I and II is one year. It can be prolonged with the help of positive test results of production test pieces or results of non-destructive tests.

Parts of this approval are the a. m. certificate, the above mentioned WPS, if any, and our letter of approval with ref.-no. 075341-15/DLie of 2015-12-17.

Hamburg, 2015-12-17

DNV GL



Dietmar Liebich

Certificate

DNV GL

Suppl.-No.: 07
to Certificate WF 0910252 HH

WPS-No.: LTI WPQ-278 rev.0 of 2014-06-16

Messrs.

Oostendorp Apparatenbouw BV

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 duplex steel pipes (1.4462)

Welding Details

Process: 141 - Tungsten inert gas arc welding (TIG)
Type of weld: Butt welds, welded from one side in multi-run technique without backing.
Welding equipment: Suited, in accordance with the instructions of the welding supervisor.
Welding data: As for welding procedure test, see relevant welding procedure specification.
Welding consumables: Wire-gas combinations tested and approved by DNV GL with the relevant grades according to the base materials to be welded.

Edge preparation: Single-V, included angle, root gap and root face, see relevant welding procedure specification.

Weld build-up: Multilayer

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

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

Others: Tungsten inert gas welding with protection against wind and weather.
For the results see test report WPQR no. 278 dated 2014-11-14.

Range of application

Base material(s): Duplex steel X2CrNiMoN22-5-3 (material no.: 1.4462)

Wall thickness(es) [mm]: 3.0 - 22

Pipe diameter [mm]: $\geq 84,0$

Positions: PA

Heat treatment condition: As welded.

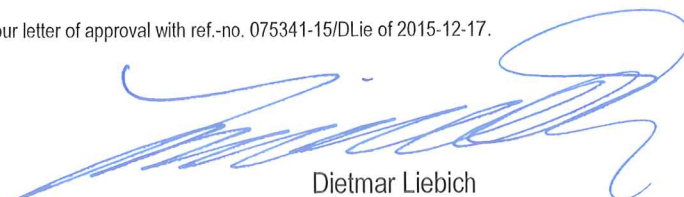
Design temperature: As for base and filler material.

Particularities, remarks: The regulations and recommendations of the manufacturers of the base and filler material for the welding of duplex steels have to be observed. The validity of the welding procedure qualification for pressure vessels, steam boilers and pipelines pipe class I and II is one year. It can be prolonged with the help of positive test results of production test pieces or results of non-destructive tests.

Parts of this approval are the a. m. certificate, the above mentioned WPS, if any, and our letter of approval with ref.-no. 075341-15/DLie of 2015-12-17.

Hamburg, 2015-12-17

DNV GL



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.

Certificate

DNV GL

Suppl.-No.: 08
to Certificate WF 0910252 HH

WPS-No.: LMI WPQ-388 rev. 0 of 2002-08-15

Messrs.

Oostendorp Apparatenbouw BV

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 welding combined with flux-cored wire metal-arc welding with shielding gas of duplex steels

Welding Details

Process: 141/136 - Tungsten inert gas arc welding (TIG) and flux-cored wire metal-arc welding with shielding gas (FCAW)
Type of weld: Multi layer, welded from one side.
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 resp. flux cored wire-gas combinations tested and approved by DNV GL with the relevant grades according to the base materials to be welded.

Edge preparation: Single-V, included angle, root gap and root face, see relevant welding procedure specification.

Weld build-up: Multi layer. Root run: 141, rest: 136.

Welding heat treatment: Without preheating, in any case remove moisture. Heat input according to the welding procedure test. Interpass temperature max. 150°C.

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

Others: Tungsten inert gas welding resp. flux-cored wire metal-arc welding with shielding gas with protection against wind and weather. For the results see test report WPQR no. 388 dated 2014-11-14.

Range of application

Base material(s): Duplex steel X2CrNiMoN22-5-3 (material no.: 1.4462)

Wall thickness(es) [mm]: 5.5 - 22,0

Pipe diameter [mm]: $\geq 84,0$

Positions: PC

Heat treatment condition: As welded.

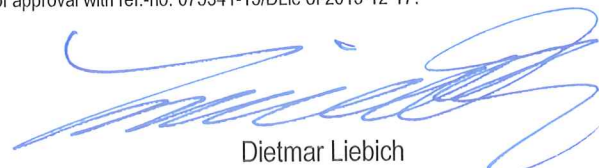
Design temperature: As for base and filler metal.

Particularities, remarks: The instructions and recommendations of the manufacturers of the base- and filler materials for welding of duplex steel 1.4462 . Charpy impact tests had been carried out at -40°C.

Parts of this approval are the a. m. certificate, the above mentioned WPS, if any, and our letter of approval with ref.-no. 075341-15/DLie of 2015-12-17.

Hamburg, 2015-12-17

DNV GL



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.