

APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00001UR
Revision No:
1

This is to certify:

That

TPS Technitube Röhrenwerke GmbH
Julius-Saxler-Straße 7, 54550 Daun,
Germany

is an approved manufacturer of
Steel Pipes and Fittings

in accordance with
DNV GL rules for classification – Ships

and the following particulars:

Product	Pipes
Application area	Austenitic and ferritic-austenitic steel pipes
Steel type	Austenitic stainless, Austenitic-ferritic (Duplex) stainless, See page 2
Manufacturing method	Cold finished seamless
Max. outer diameter	42 mm
Max. wall thickness	4 mm
Heat treatment condition	See page 2
Additional approval conditions	See page 2

Manufacturer(s) approved by this certificate is/are accepted to deliver according to DNV GL, DNV and GL rules. Materials to be applied to DNV GL classed object shall fulfill the material requirements in the applicable DNV GL class rules.

Issued at **Hamburg** on **2021-01-12**

for **DNV GL**

This Certificate is valid until **2023-12-31**.

DNV GL local station: **Essen**

Approval Engineer: **Christian Wildhagen**

Thorsten Lohmann
Head of Section

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Job Id: **263.11-003086-4**
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Particulars of the approval

Austenitic and Austenitic-ferritic steel pipes

Steel type	Grade ³⁾	Manufacturing method ¹⁾	Max. outer diameter [mm]	Max. wall thickness [mm]	Delivery condition ²⁾
Austenitic stainless	1.4301, 1.4306, 1.4307, 1.4401, 1.4404, 1.4435, 1.4436, 1.4539, 1.4541, 1.4547, 1.4550, 1.4571 acc. to EN 10216-5	CFS	42	4	SHT
Austenitic stainless	TP 304, TP 304L, TP316, TP 316L, TP 316Ti, TP 312, TP 347 acc. to ASTM A312	CFS	42	4	SHT
Austenitic-ferritic stainless (duplex)	1.4462, 1.4410 acc. to EN 10216-5	CFS	42	4	SHT

Remarks:

- 1) CFS: cold finished seamless
- 2) SHT: Solution Heat Treated
- 3) Certification of any material applied to classed object shall fulfill the applicable material requirements in the DNV GL class rules

Special conditions:

Including automatic UT / ET testing in lieu of hydraulic testing according to relevant standard