

APPROVAL OF MANUFACTURER CERTIFICATE

This is to certify:

That

TUBOS REUNIDOS INDUSTRIAL, S.L.U.
Barrio Sagarribai 2, 01470 Amurrio, Alava,
Spain

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	Pipes for pressure systems, Pipes for low-temperature service, Boiler and superheater tubes
Steel type(s)	Carbon and carbon-manganese
Manufacturing method	Seamless
Max. outer diameter	168.3 mm
Max. wall thickness	22 mm
Heat treatment condition	See page 2
Additional approval conditions	Including automated non-destructive testing in place of hydraulic testing according to relevant piping standard

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 **2019-02-11**

for **DNV GL**

This Certificate is valid until **2021-06-30**.

DNV GL local station: **Bilbao**

Approval Engineer: **Andreas Koch**

Thorsten Lohmann
Head of Section



Particulars of the approval

Pipes for pressure systems
Boiler and superheater tubes
Pipes for low-temperature service

Steel type /grade 3)4)5)6)	Manufacturing method ¹⁾	Max. outer diameter [mm]	Max. wall thickness [mm]	Heat treatment condition ²⁾
C and C-Mn	HFS, CFS	163.8	22	N; QT; AD

Remarks:

- 1) HFS: hot finished seamless
CFS: cold finished seamless
- 2) N: Normalised
QT: Normalised followed by quenched and tempered
AD: As drawn
- 3) Certification of any material applied to classed object shall fulfill the applicable material requirements in the DNV GL class rules
- 4) Pipes for pressure systems
Suitable pipe grades shall be selected from the following recognised standards:
ISO 9329 Parts 1 and 2, ISO 9330 Parts 1 and 2, EN 10216 Parts 1 to 3, EN 10217 Parts 1 to 3, EN 10305 Part 1 and 2, ASTM A53, ASTM A106, ASTM A135, ASTM A335, JIS G3454, JIS G3455, JIS G3456 or JIS G3458
- 5) Pipes for low-temperature service
Suitable pipe grades shall be selected from the following recognised standards:
ISO 9329 Part 3, ISO 9330 Part 3, EN 10216 Part 4, EN 10217 Part 6, ASTM A333, ASTM A334 or JIS G3460
- 6) Boiler and superheater tubes
Suitable pipe grades shall be selected from the following recognised standards:
ISO 9329 Part 2, ISO 9330 Part 2, EN 10216 Part 2, EN 10217 Part 2, ASTM A178, ASTM A209, ASTM A210, ASTM A213, JIS G3461, JIS G3462 or JIS G3463

Special conditions:

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