APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No: AMMM0000052 Revision No: 1

DNV·GL

This is to certify: That

voestalpine Tubulars GmbH & Co. KG Alpinestraße 17, 8652 Kindberg-Aumühl, Austria

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	Carbon and carbon-manganese,
	See page 2
Manufacturing method	Seamless
Max. outer diameter	180 mm
Max. wall thickness	22 mm
Heat treatment condition	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 2019-09-25

This Certificate is valid until **2022-06-30**. DNV GL local station: **Augsburg**

Approval Engineer: Christian Wildhagen

for **DNV GL**

Thorsten Lohmann Head of Section

Revision: 2018-03

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 263.11-003909-3

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Particulars of the approval

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

Steel type /grade	Manufacturing	Max. outer	Max. wall	Heat treatment condition
2)3)4)	method ¹⁾	diameter [mm]	thickness [mm]	
C and C-Mn	HFS	180	22	Acc. standard

Remarks:

- ¹⁾ HFS: hot finished seamless
- Pipes for pressure systems
 Suitable pipe grades shall be selected from the following recognized 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
- ³⁾ Pipes for low-temperature service Suitable pipe grades shall be selected from the following recognized standards: ISO 9329 Part 3, ISO 9330 Part 3, EN 10216 Part 4, EN 10217 Part 6, ASTM A333, ASTM A334 or JIS G3460
- ⁴⁾ Boiler and superheater tubes Suitable pipe grades shall be selected from the following recognized 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