



# APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:  
**AMMM00000Z**  
Revision No:  
**2**

This is to certify:

That  
**Tubacex Tubos Inoxidables, S.A.U. (T.T.I.)**  
Llodio, Alava,  
Spain

is an approved manufacturer of  
**Steel Pipes and Fittings**

in accordance with  
**DNV rules for classification – Ships**

and the following particulars:

<b>Product</b>	<b>Pipes</b>
<b>Application area</b>	<b>Austenitic and ferritic-austenitic steel pipes</b>
<b>Steel type</b>	<b>Austenitic stainless, Ferritic-austenitic (Duplex) stainless, See page 2</b>
<b>Manufacturing method</b>	<b>Hot finished seamless</b>
<b>Max. outer diameter</b>	<b>250 mm</b>
<b>Max. wall thickness</b>	<b>60 mm</b>
<b>Heat treatment condition</b>	<b>Solution heat treated</b>

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 classed object shall fulfill the material requirements in the applicable DNV class rules.

Issued at **Hamburg** on **2022-11-22**

for **DNV**

This Certificate is valid until **2025-06-30**.

DNV local unit: **Area NB/CMC Iberia**

Approval Engineer: **Christian Wildhagen**

**Thorsten Lohmann**  
**Head of Section**

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



## Particulars of the approval

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### Austenitic and Ferritic-austenitic steel pipes

Steel type /grade <sup>3)</sup>	Manufacturing method <sup>1)</sup>	Max. outer diameter [mm]	Max. wall thickness [mm]	Heat treatment condition <sup>2)</sup>
Austenitic stainless	HFS	250	60	SHT
22Cr duplex stainless	HFS	250	60	SHT
25Cr duplex stainless	HFS	250	60	SHT

Remarks:

- 1) HFS: hot finished seamless
- 2) SHT: Solution Heat Treated (solution annealing)
- 3) Austenitic and ferritic-austenitic steel pipes  
Suitable pipe grades shall be selected from the following recognized standards:  
ISO 9329 Part 4, ISO 9330 Part 6, EN 10216 Part 5, EN 10217 Part 7, ASTM A269, ASTM A312, ASTM A358, ASTM A789, ASTM A790, ASTM A928 or JIS G3459