



# APPROVAL OF MANUFACTURER CERTIFICATE

Certificate no.:  
**AMMM00000MS**  
Revision No:  
**3**

## This is to certify:

that

**NIROBO Metallverarbeitungs-GmbH**  
**Ostring 25-27, 63533 Mainhausen,**  
**Germany**

is an approved manufacturer of  
**Fittings**

in accordance with

**DNV rules for classification – Ships**  
**DNV class programme – DNV-CP-0252 Steel pipes and steel pipe fittings**  
**DNV class programme – DNV-CP-0253 Non-ferrous tubes**

and the following particulars:

<b>Application area</b>	<b>Steel fittings</b>
	<b>Copper and copper alloy fittings</b>
<b>Alloy type</b>	<b>Austenitic stainless,</b>
	<b>Ferritic-austenitic (Duplex) stainless,</b>
	<b>Copper-Nickel 90-10,</b>
	<b>See page 2</b>
<b>Manufacturing method</b>	<b>Seamless or welded,</b>
	<b>Cold formed</b>
<b>Max. outer diameter</b>	<b>See page 2</b>
<b>Max. wall thickness</b>	<b>See page 2</b>
<b>Heat treatment condition</b>	<b>See page 2</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 **2025-07-09**

This Certificate is valid until **2028-02-28**.

DNV local unit: **Augsburg**

Approval Engineer: **Christian Wildhagen**



for **DNV**

This document has been digitally signed and will  
therefore not have handwritten signature

Stefan Röhr

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 USD 300 000.

## Particulars of the approval

### Steel pipe fittings

Steel type	Grade	Manufacturing method <sup>1)</sup>	Max. outer diameter [mm]	Max. wall thickness [mm]	Heat treatment condition
Austenitic	1.4301	EFW, CFS	406,4	18	SHT
	1.4306	EFW, CFS	406,4	18	SHT
	1.4307	EFW, CFS	406,4	18	SHT
	1.4401	EFW, CFS	406,4	18	SHT
	1.4404	EFW, CFS	406,4	18	SHT
	1.4435	EFW, CFS	406,4	18	SHT
	1.4436	EFW, CFS	406,4	18	SHT
	1.4541	EFW, CFS	406,4	18	SHT
	1.4550	EFW, CFS	406,4	18	SHT
	1.4571	EFW, CFS	406,4	18	SHT
22Cr duplex stainless		EFW, CFS	115	9	SHT

### Copper alloy pipe fittings

Alloy type	Grade	Manufacturing method <sup>1)</sup>	Max. outer diameter [mm]	Max. wall thickness [mm]	Heat treatment condition
Copper-Nickel 90-10	CuNi10Fe1Mn acc. to. EN 12451	CFS	406,4	12	acc. to standard

### Remarks:

- <sup>1)</sup> CFS: cold finished seamless  
 EFW: electric fusion welded
- <sup>2)</sup> SHT: Solution Heat Treated (solution annealing) (as formed/as welded)
- <sup>3)</sup> Suitable pipe grades shall be selected from the following recognised 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 and JIS G3459