



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM000024Y
Revision No:
2

This is to certify:

That

KME Special Products & Solutions GmbH
Klosterstraße 29, 49074 Osnabrück,
Germany

is an approved manufacturer of
Wrought Copper and Copper Alloys

in accordance with
DNV rules for classification – Ships
DNV-OS-B101 – Metallic Materials

and the following particulars:

Application area	Copper and copper alloy tubes, Copper and copper alloy fittings
Product	Pipes, fittings and flanges
Alloy type	Phosphorus-deoxidised copper, Copper-Nickel 90-10, Copper-Nickel 70-30
Manufacturing method	Seamless or welded
Max. outer diameter	See page 2
Max. wall thickness	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 classed object shall fulfill the material requirements in the applicable DNV class rules.

Issued at **Hamburg** on **2022-02-15**

for **DNV**

This Certificate is valid until **2024-06-30**.

DNV local station: **Essen**

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.



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Particulars of the approval

Copper and copper alloy tubes

Alloy type	Manufacturing method ¹⁾	Max. outer diameter [mm]	Max. wall thickness [mm]
Phosphorus-deoxidised copper, Copper-Nickel 90-10, Copper-Nickel 70-30	HFS / CFS	457	26.5

Copper and copper alloy fittings and flanges

Alloy type	Standard	Manufacturing method ¹⁾	Max. outer diameter [mm]	Max. wall thickness [mm]
Phosphorus-deoxidised copper, Copper-Nickel 90-10, Copper-Nickel 70-30	DIN 86037	HFS / CFS / EFW	300	-
	EN 1092-3	HFS / CFS / EFW	300	-
	DIN 86087	HFS / CFS / EFW	610	17
	DIN 86086	HFS / CFS / EFW	610	17
	DIN 86089	HFS / CFS / EFW	610	17
	DIN 86090	HFS / CFS / EFW	610	17
	DIN 86088	HFS / CFS / EFW	610	17
	EEMUA 234	HFS / CFS / EFW	610	17

Remarks:

- ¹⁾ HFS: hot finished seamless
 CFS: cold finished seamless
 EFW: electric fusion welded