

APPROVAL OF MANUFACTURER CERTIFICATE

This is to certify:

That

KME Germany GmbH & Co. KG
Klosterstraße 29, Osnabrück,
Germanyis an approved manufacturer of
Wrought Copper and Copper Alloysin accordance with
DNV GL rules for classification – Ships

and the following particulars:

Application area	Copper and copper alloy tubes
Alloy type	Phosphorus-deoxidised copper, Copper-Nickel 90-10, Copper-Nickel 70-30
Manufacturing method	Seamless
Max. outer diameter	457 mm
Max. wall thickness	26.5 mm
Additional approval conditions	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 **2018-07-05**for **DNV GL**This Certificate is valid until **2021-06-30**.DNV GL local station: **Essen**Approval Engineer: **Christian Wildhagen**

Thorsten Lohmann
Head of Section

Job Id: **263.11-004425-3**
Certificate No: **AMMM000024Y**

Particulars of the approval

Copper and copper alloy tubes

Alloy type³⁾	Manufacturing method ¹⁾	Max. outer diameter [mm]	Max. wall thickness [mm]
Phosphorus-deoxidised copper	HFS / CFS	457	26.5
Copper-Nickel 90-10	HFS / CFS	457	26.5
Copper-Nickel 70-30	HFS / CFS	457	26.5

Remarks:

- 1) HFS: hot finished seamless
CFS: cold finished seamless
- 2) Certification of any material applied to classed object shall fulfill the applicable material requirements in the DNV GL class rules