



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate no.:
AMMM00000T3
Revision No:
3

This is to certify:

that

Dillenberg GmbH & Co. KG
Waagenstraße 25, 40229 Düsseldorf,
Germany

is an approved manufacturer of
Copper Alloy Castings

in accordance with

DNV rules for classification – Ships
DNV-OS-B101 – Metallic materials
DNV class programme – DNV-CP-0251 Copper alloy castings

and the following particulars:

Application area	Castings for valves, fittings and general application
Alloy type	Al bronze, Sn-bronze, Pb-Sn-bronze, Mn-bronze
Manufacturing method	See page 2
Max. weight	See page 2
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 classed object shall fulfill the material requirements in the applicable DNV class rules.

Issued at **Hamburg** on **2025-08-18**

This Certificate is valid until **2028-06-30**.
DNV local unit: **Essen**

Approval Engineer: **Dechun Lou**



for **DNV**

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

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

Castings for valves, fittings and general application

Alloy type / grade	Casting method ^{1) 2)}	Max. weight [kg]	Heat treatment condition ³⁾
Al-bronze	SC, CC, CF, DC	1 800	AC
Sn-Bronze	SC, CC, CF, DC	1 800	AC
Pb-Sn bronze	SC, CC, CF, DC	1 800	AC
Mn-bronze	SC, CC, CF, DC	1 800	AC

Remarks:

- ¹⁾ SC: Sand Casting; CF: Centrifugal Casting; CC: Continuous Casting; DC: Discontinuous Casting
- ²⁾ Dimensions
 Continuous Casting: Rods from 21 to 122 mm outer diameter; pipes from 18 to 88 mm inner diameter
 Discontinuous Casting: Rods from 122 to 353 mm outer diameter
- ³⁾ AC: As cast