

APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00001KS
Revision No:
2

This is to certify:

That

Göpfert AG
Industriestraße, 25795 Weddingstedt,
Germany

is an approved manufacturer of
Copper Alloy Castings

in accordance with
DNV rules for classification – Ships
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, see page 2
Manufacturing method	Sand casting
Max. weight	See page 2
Max. wall thickness	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 **2023-06-14**

This Certificate is valid until **2026-06-30**.

DNV local unit: **Hamburg**

Approval Engineer: **Christian Wildhagen**



for **DNV**

Digitally Signed By: Roehr, Stefan
Location: DNV Hamburg, Germany
Signing Date: 14.06.2023 , on behalf of

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

Castings for valves, fittings and general application

Alloy type	Grade ²⁾	Casting method ¹⁾	Max. weight [kg]	Max. section / wall thickness [mm]	Heat treatment condition ²⁾
Sn-bronze	CuSn10Zn acc. DIN 1705	SC	500	100	AC
	CuSn10-C acc. EN 1982	SC	500	100	AC
Pb-Sn-bronze	CuSn5Zn5Pb5-C acc. EN 1982	SC	500	100	AC
	CuSn5Zn5Pb2-C acc. EN 1982	SC	500	100	AC
Al-bronze	CuAl10Fe5Ni5-C acc. EN 1982	SC	500	100	AC
	CuAl9Ni7 acc. WL 2.0968	SC	500	100	AC

Remarks:

- ¹⁾ SC: Sand Casting
- ²⁾ AC: As Cast