



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM000027Y
Revision No:
2

This is to certify:

That

Pleiger Maschinenbau GmbH & Co. KG
Im Hammertal 51, 58456 Witten,
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
Alloys	Phosphor bronze, Leaded gunmetal, Leaded bronze, Mn-Ni-bronze, Ni-Al-bronze
Manufacturing method	Sand casting
Max. Weight	See page 2
Max. wall thickness	See page 2
Heat treatment condition	As cast

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 **2024-09-03**

This Certificate is valid until **2027-04-30**.

DNV local unit: **Essen**

Approval Engineer: **Stefan Röhr**



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 300,000 USD.



Form code: AM 311

Revision: 2022-12

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Page 1 of 2

Particulars of the approval

Castings for valves, fittings and general application

Alloy type	Grade ³⁾	Casting method ¹⁾	Max. weight [kg]	Max. section / wall thickness [mm]	Heat treatment condition ²⁾
Phosphor bronze	CuSn10-C acc. to EN 1982	SC	700	400	AC
	CuSn12-C acc. to EN 1982	SC	700	400	AC
Leaded gunmetal	CuSn5Zn5Pb5-C acc. to EN 1982	SC	700	400	AC
	CuSn7Zn4Pb7-C acc. to EN 1982	SC	700	400	AC
Leaded bronze	CuSn10Pb10-C acc. to EN 1982	SC	700	400	AC
Mn-Ni-bronze (CU2)	CuZn34Mn3Al2Fe1-C acc. to EN 1982	SC	700	400	AC
Ni-Al-bronze (CU3)	CuAl10Fe5Ni5-C acc. to EN 1982	SC	700	400	AC

Remarks:

- ¹⁾ SC: Sand Casting
- ²⁾ AC: As cast
- ³⁾ Incl. equivalent grades in acc. to other standards