



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM000007R
Revision No:
3

This is to certify:

That

C.C. Jensen Casting A/S
Svendborg, Denmark

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, Castings for propellers
Alloy type	Al-bronze, Mn-bronze (NV Cu1), Ni-Mn-bronze (NV Cu2), Ni-Al-bronze (NV Cu3),
Manufacturing method	Sand casting,
Max. weight	3 500 kg
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 **2023-10-18**

This Certificate is valid until **2026-10-21**.

DNV local unit: **Fredericia Fleet In Service**

Approval Engineer: **Andreas Koch**



for **DNV**

Digitally Signed By: Wildhagen, Christian
Location: DNV Hamburg, Germany
Signing Date: 19.10.2023, 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.



Form code: AM 311

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Particulars of the approval

Castings for valves, fittings and general application

Alloy type	Casting Method ¹⁾	Max. weight [kg]	Max. thickness [mm]	Heat treatment condition
Al-bronze	SC	3500	250	AC
Mn-bronze	SC	3500	250	AC
Ni-Al-bronze	SC	3500	250	AC

Propeller and propeller parts:

Alloy type	Grade ³⁾	Casting Method ¹⁾	Max. weight [kg]	Max. thickness [mm]	Heat treatment condition
Mn-bronze	NV Cu1	SC	3500	250	AC
Ni-Al-bronze	NV Cu3	SC	3500	250	AC

Remarks:

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