



# 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:

<b>Application area</b>	<b>Castings for valves, fittings and general application, Castings for propellers</b>
<b>Alloy type</b>	<b>Al-bronze, Mn-bronze (NV Cu1), Ni-Mn-bronze (NV Cu2), Ni-Al-bronze (NV Cu3),</b>
<b>Manufacturing method</b>	<b>Sand casting,</b>
<b>Max. weight</b>	<b>3 500 kg</b>
<b>Max. wall thickness</b>	<b>See page 2</b>
<b>Heat treatment condition</b>	<b>As cast</b>

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**

for **DNV**

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

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

Approval Engineer: **Andreas Koch**

.....  
**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	Casting Method <sup>1)</sup>	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 <sup>3)</sup>	Casting Method <sup>1)</sup>	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