



Marine & Offshore

Certificate number: 23358/C0 BV

File number: MAT 28817-2010

Product code: 8159I

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

www.veristar.com

## APPROVAL CERTIFICATE for MATERIALS

*This certificate is issued to*

**Frese metal- & stålstøberi A/S**  
Slagelse - DENMARK

*for the type of product*

**COPPER ALLOY CASTINGS**

Copper-nickel-aluminium alloy castings with weight up to 1200 kg

**Requirements:**

Bureau Veritas Rules on Materials and Welding for the Classification of Marine Units

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 21 Sep 2026**

**For Bureau Veritas Marine & Offshore,**

At BV FREDERICIA, on 21 Sep 2021,

Jesper JENSEN



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site [www.veristar.com](http://www.veristar.com). Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION :

Castings made of copper-nickel-aluminium alloys.  
Typical casting applications are pumps, valves, liners and bushes.

Typical grade	Delivery condition	Particulars
CC333G according to EN 1982	As cast	Maximum weight 1200 kg

Sand castings.  
Alloy melting in induction furnace.

### 2. DOCUMENTS AND DRAWINGS :

2.1 - As per following document issued by Frese Metal & Stalstoberi A/S.  
- "Initial approval of Frese Metal & Stalstoberi A/S for manufacturing of copper, "short freezing range" alloy castings for pumps, valves and liners and bushes" dated 2010.

### 3. TEST REPORTS :

3.1 - As per following documents issued by Frese Metal & Stalstoberi A/S  
- "Report N° M018194:1" issued by Frese Metal & Stalstoberi A/S and dated 08 June 2010.  
- "Report N° M018194:2" issued by Frese Metal & Stalstoberi A/S and dated 08 June 2010.  
- "Report N° M018194:3" issued by Frese Metal & Stalstoberi A/S and dated 08 June 2010.  
- "Report N° Mo18194:4" issued by Frese Metal & Stalstoberi A/S and dated 08 June 2010.

### 4. APPLICATION / LIMITATION :

As per Bureau Veritas Rules for Classification  
Chemical composition, tensile properties and Charpy V-notch test requirements are to be as per Bureau Veritas Rules NR216 and/or alternative specification mentioned on reviewed drawings, as applicable.

### 5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The copper-nickel-aluminium alloy castings are to be supplied by Frese Metal & Stålstøberi A/S in compliance with the type and the requirements described in this certificate.  
5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.  
5.3 - BV product certificate is required.

### 6. MARKING OF PRODUCT :

As per Bureau Veritas Rules for Classification.

### 7. OTHERS :

This certificate replaces approvals No.23358/A0 BV and No. 23358/B0 BV.

\*\*\* END OF CERTIFICATE \*\*\*