



Marine & Offshore

Certificate number: 70911/A0 BV

File number: MAT 114903-2022

Product code: 8159I

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

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## APPROVAL CERTIFICATE for MATERIALS

*This certificate is issued to*

**Subhadra Metals Pvt. Ltd.**  
Khalapur - Raigad - INDIA

*for the type of product*

**COPPER ALLOY CASTINGS**

Castings in CU1 and Gunmetal grades

**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: 16 May 2027**

**For Bureau Veritas Marine & Offshore,**  
At BV MUMBAI (BOMBAY), on 16 May 2022,  
Nitin NALAWADE

***This certificate was created electronically and is valid without signature***



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. 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 propellers made of copper-based alloy CU1.  
Shaft components made of Gunmetal.

Grade designation	Delivery condition	Maximum weight
CU1	As cast	250kg
Gunmetal Tested grade: BS1400 - LG2	As cast	55kg

Moulding in sand material. Copper alloy melting in oil Fired Tilting furnaces.

### **2. DOCUMENTS AND DRAWINGS :**

2.1 - Documents issued by Subhadra Metals Pvt. Ltd.:  
- "Technical information for BV approval" submitted on April 2022.  
- Ref.PNDT/LPT/1203/2022 dated 12/03/2022.

2.2 - Document issued by Sharptest:  
- Ref.QCP/SNIS/PT-Propeller/1.0 Rev.0 dated 25/03/2019.

### **3. TEST REPORTS :**

3.1 - Documents issued by Subhadra Metals Pvt. Ltd.:  
- Reports No. I1329 dated 21/01/2020, No. L8261 and L8529 dated 26/02/2022 for CU1 grade.  
- Reports No. I1330 dated 21/01/2022, No. L8260 dated 26/02/2022 for GunMetal grade.

### **4. APPLICATION / LIMITATION :**

As per Bureau Veritas Rules for Classification

### **5. PRODUCTION SURVEY REQUIREMENTS :**

5.1 - The castings are to be supplied by Subhadra Metals Pvt. Ltd. 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 :**

Nil.

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