



Marine & Offshore

Certificate number: 36835/B1 BV

File number: MAT 3027-2013

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*

**JC NAVALIPS S.L.**  
Cantabria - SPAIN

*for the type of product*

**COPPER ALLOY CASTINGS**

Propeller castings in Copper-nickel-aluminium alloy Cunial®060 of maximum weight 15 tons

**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: 29 Mar 2026**

**For Bureau Veritas Marine & Offshore,**

At BV BILBAO, on 01 Feb 2023,

Juan jose GUTIERREZ GARCIA

***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, CPP blades and components made of copper-nickel-aluminium alloy Cunial®060.  
Typical copper alloy castings applications are controllable pitch propeller (CPP), fixed pitch propeller (FPP).

Grade designation	Delivery condition	Maximum weight
Cunial®060	As cast	15tons

Moulding in sand material. Copper alloy melting in electrical furnaces.

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

- General information named "Wärtsilä Ibérica WES-IO-P DCS" dated 11/02/2019.
- Copper-nickel-aluminium alloy Cunial®060 be specified in accordance with "Cunial®060 - Foundry license" Ref. 20100317 NRsl Rev. No.001 dated 10/09/2010.
- Technical instructions Code No.ITP-160;No. ITP-200;No.ITP-250;ITP-920;ITP-010;ITP-040;ITP100 issued by Wärtsilä Ibérica, S.A. dated 2012.
- Document named "KZP-1052.E, Repairs options castings defects in CU3 and CU4" issued by Wärtsilä Netherlands B.V. dated 19/02/2010.
- Documents for non-destructive testing submitted by Wärtsilä Ibérica, S.A. on March 2021.

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

- Production data statistics Doc. ID DBAB719385 Revision No.01 issued by Wärtsilä Spain Santander.
- "Wärtsilä foundries for Cunial®060 license" No. 20110722SL issued by Wärtsilä.
- Document "Results of mechanical testing of samples cast at Wärtsilä DCS,Santander,Spain" issued by Wärtsilä Netherlands B.V.
- Reports No. EAM009886P dated 26/06/2013, No. 1490242.3 dated 26/06/2013 and issued by National Aerospace laboratory.
- Inspection certificates for Heat No.1099130, No.1102769 dated 26/09/20219; No.1095954 dated 04/09/2019 issued by Wartsila Ibérica S.A.

### **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 documents and drawings, as applicable.

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

- 5.1 - The copper-nickel-aluminium alloy Cunial®060 castings propellers, CPP blades and components are to be supplied by JC Navalips S.L. 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 certificates replaces approvals No.36835/A0 BV and No.36835/B0 BV.

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