



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00002C0
Revision No:
1

This is to certify:

That

EBROACERO, S.A.
Calle de Argualas, 20,
50012 Zaragoza,
Spain

is an approved manufacturer of
Steel Castings

in accordance with
DNV GL rules for classification – Ships
DNVGL-OS-B101 – Metallic materials

and the following particulars:

Application area	Castings for hull structures and equipment
Steel type	Castings for machinery
Casting method	Carbon and carbon-manganese,
Max. weight	Alloy
Max. wall thickness	Sand casting
Heat treatment condition	14 000 kg
Additional approval conditions	See page 2
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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 **2021-09-27**

for **DNV**

This Certificate is valid until **2024-06-30**.

DNV local station: **Area NB/CMC Iberia**

Approval Engineer: **Christian Wildhagen**

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.



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Particulars of the approval

Castings for hull structure and equipment

Steel type	Grade ³⁾⁴⁾	Casting method ¹⁾	Max. weight [kg]	Max. section / wall thickness [mm]	Heat treatment condition ²⁾
C and C-Mn	VL C400UW, VL C440UW, VL C480UW, VL C520UW, VL C560UW, VL C600UW	SC	14 000	850	N, NT, QT
Alloy	VL C550AW, VL C620AW	SC	14 000	850	QT

Castings for machinery

Steel type	Grade ³⁾⁴⁾	Casting method ¹⁾	Max. weight [kg]	Max. section / wall thickness [mm]	Heat treatment condition ²⁾
C and C-Mn	VL C400U, VL C440U, VL C480U, VL C520U, VL C560U, VL C600U	SC	14 000	850	N, NT, QT
Alloy	VL C550A, VL C600A, VL C690A	SC	14 000	850	QT

Remarks:

- 1) SC: Sand Casting
- 2) N: Normalised
 QT: Quenched and tempered
 NT: Normalised and tempered
- 3) Certification of any material applied to classed object shall fulfill the applicable material requirements in the DNV GL class rules
- 4) Incl. equivalent grades in acc. to other standards