



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM0000165
Revision No:
2

This is to certify:

That

Aceros Moldeados de Lacunza, S.A.
Abarrategui s/n, 31830 Lakuntza, Navarra,
Spain

is an approved manufacturer of
Steel Castings

in accordance with
DNV rules for classification – Ships

and the following particulars:

Application area	Castings for hull structures and equipment Castings for machinery Castings for boilers, pressure vessels and piping systems Stainless steel castings
Steel type	Carbon and carbon-manganese, Alloy, Austenitic stainless, 22 Cr duplex stainless, 25 Cr duplex stainless
Casting method	Sand casting
Max. weight	See page 2
Heat treatment condition	See page 2

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 **2022-09-07**

for **DNV**

This Certificate is valid until **2025-06-30**.

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

Approval Engineer: **Christian Wildhagen**

Thorsten Lohmann
Head of Section

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Particulars of the approval

Castings for hull structure and equipment

Steel type	Grade ³⁾	Casting method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
C and C-Mn	NV C400UW, NV C440UW, NV C480UW, NV C520UW, NV C560UW, NV C600UW	SC	2 900	N, NT, QT
Alloy	NV C550AW, NV C620AW	SC	2 900	QT

Castings for machinery

Steel type	Grade ³⁾	Casting method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
C and C-Mn	NV C400U, NV C440U, NV C480U, NV C520U, NV C560U, NV C600U	SC	2 900	N, NT, QT
Alloy	NV C550A, NV C600A, NV C690A	SC	2 900	QT

Castings for boilers, pressure vessels and piping systems

Steel type	Grade ³⁾	Casting method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
C and C-Mn	C450H, C490H	SC	2 900	N, NT, QT
Alloy	NV C0.5Mo, NV C1Cr0.5Mo, NV C2.25Cr1Mo	SC	2 900	QT

Stainless steel castings

Steel type	Grade ³⁾	Casting method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
Austenitic	GX 2 CrNi 18 10 (304L), GX 5 CrNi 19 9 (304), GX 6 CrNiNb 19 10 (347), GX 2 CrNiMo 19 11 2 (316L), GX 5 CrNiMo 19 11 2 (316), GX 5 CrNiMo 19 11 3 (317)	SC	2 900	SHT
Ferritic-austenitic	GX 2 CrNiMoN 22 5 3, GX 2 CrNiMoCuN 25 6 3 3, GX 2 CrNiMoN 26 7 4	SC	2 900	SHT

Remarks:

- ¹⁾ SC: Sand Castings
- ²⁾ SHT: Solution Heat Treated (Solution Annealing)
N: Normalized
QT: Quenched and tempered
NT: Normalized and tempered
- ³⁾ Incl. equivalent grades in acc. to other standards