



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM0000SG
Revision No:
2

This is to certify:

That

F.LLI GANDOSI ACCIAIERIE ELETTRICHE S.P.A.
Via Roma 23, 24027 Nembro BG,
Italy

is an approved manufacturer of
Steel Castings

in accordance with
DNV GL rules for classification – Ships

and the following particulars:

Application area	Castings for hull structures and equipment Casting for machinery Castings for boilers, pressure vessels and piping systems Stainless steel castings
Steel type	Carbon, Carbon-Manganese, Austenitic Stainless
Casting method	See page 2
Max. weight	8 500kg Carbon, Carbon-Manganese 4 500kg Austenitic Stainless
Max. wall thickness	See page 2
Heat treatment condition	See page 2
Additional approval conditions	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 **2021-07-14**

for **DNV**

This Certificate is valid until **2024-07-31**.

DNV local station: **Italy/Malta CMC**

Approval Engineer: **Andreas Koch**

.....
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.



Form code: AM 311

Revision: 2021-03

www.dnv.com

Page 1 of 2

Particulars of the approval

Castings for hull structure and equipment

Steel type	Grade ^{3) 4)}	Casting method ¹⁾	Max. weight [kg]	Max. wall thickness [mm]	Heat treatment condition ²⁾
C and C-Mn	VL C400UW, VL C440UW, VL C480UW, VL C520UW, VL C560UW, VL C600UW	SC	8 500	600	N, NT, QT

Castings for machinery

Steel type	Grade ^{3) 4)}	Casting method ¹⁾	Max. weight [kg]	Max. wall thickness [mm]	Heat treatment condition ²⁾
C and C-Mn	VL C400U, VL C440U, VL C480U, VL C520U, VL C560U, VL C600U	SC	8 500	600	N, NT, QT

Castings for boilers, pressure vessels and piping systems

Steel type	Grade ^{3) 4)}	Casting method ¹⁾	Max. weight [kg]	Max. wall thickness [mm]	Heat treatment condition ²⁾
C and C-Mn	VL C450H, VL C490H	SC	8 500	600	N, NT, QT

Stainless steel castings

Steel type	Grade ^{3) 4)}	Casting method ¹⁾	Max. weight [kg]	Max. wall thickness [mm]	Heat treatment condition ²⁾
Austenitic Stainless	GX 2 CrNi 18 10 (304L) GX 5 CrNi 19 9 (304) GX 2 CrNiMo 19 11 2 (316L) GX 5 CrNiMo 19 11 2 (316)	SC	4 500	400	SHT

Remarks:

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

Additional approval conditions:

Including austenitic stainless steel for low temperature service