

APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM0000173
Revision No:
1

This is to certify:**That****Lucchini RS S.p.A.**
Love, BG, Italy

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

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 GL classed object shall fulfill the material requirements in the applicable DNV GL class rules.

Issued at **Hamburg** on **2019-12-30**

for **DNV GL**

This Certificate is valid until **2023-01-31**.

DNV GL local station: **Milan**

Approval Engineer: **Stefan Röhr**

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Thorsten Lohmann
Head of Section



Job Id: **263.11-002864-4**
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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	VL C400UW, VL C440UW, VL C480UW, VL C520UW, VL C560UW, VL C600UW	SC	90 000	N, NT, QT
Alloy	VL C550AW, VL C620AW	SC	90 000	QT

Castings for machinery

Steel type	Grade ³⁾	Casting method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
C and C-Mn	VL C400U, VL C440U, VL C480U, VL C520U, VL C560U, VL C600U	SC	90 000	N, NT, QT
Alloy	VL C550A, VL C600A, VL C690A	SC	90 000	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	VL C450H, VL C490H	SC	90 000	N, NT, QT
Alloy	VL C0.5Mo, VL C1Cr0.5Mo, VL C2.25Cr1Mo	SC	90 000	QT

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Stainless steel castings

Steel type/grade	Casting method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
Ferritic-austenitic (22Cr duplex)	SC	60 000	SHT

Remarks:

- 1) SC: Sand Casting
- 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