

APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00000NF
Revision No:
3

This is to certify:

That

Ernst Leopold s.r.o.
Gellhornova 2242/18, 678 01 Blansko,
Czech Republic

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, Castings for machinery, Castings for boilers, pressure vessels and piping systems, Stainless steel castings
Steel type	See page 2
Casting method	See page 2
Max. weight	8000 kg
Max. wall thickness	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 GL classed object shall fulfill the material requirements in the applicable DNV GL class rules.

Issued at **Hamburg** on **2020-12-03**

for **DNV GL**

This Certificate is valid until **2023-11-16**.

DNV GL local station: **Prague**

Approval Engineer: **Andreas Koch**

Thorsten Lohmann
Head of Section

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Job Id: **263.11-008226-2**
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Particulars of the approval

Castings for hull structure and equipment

Steel type	Grade ³⁾	Casting method ¹⁾	Max. weight [kg]	Max. wall thickness [mm]	Heat treatment condition ²⁾
C and C-Mn	VL C400UW, VL C440UW, VL C480UW	SC	8 000	250	N
Alloy	VL C550AW, VL C620AW	SC	8 000	250	QT

Castings for machinery

Steel type	Grade ³⁾	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	SC	8 000	250	N
Alloy	VL C550A, VL C600A, VL C690A	SC	8 000	250	QT

Castings for boilers, pressure vessels and piping systems

Steel type	Grade ³⁾	Casting method ¹⁾	Max. weight [kg]	Max. wall thickness [mm]	Heat treatment condition ²⁾
C and C-Mn	VL C450H, VL C490H	SC	8 000	250	N
Alloy	VL C0.5Mo, VL C1Cr0.5Mo, VL C2.25Cr1Mo	SC	8 000	250	QT

Stainless steel castings

Steel type	Grade ³⁾	Casting method ¹⁾	Max. weight [kg]	Max. wall thickness [mm]	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	8 000	250	SHT

Remarks:

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