



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM0000269
Revision No:
1

This is to certify:

That

Reinhard Tweer GmbH
Krackser Str. 191, 33689 Bielefeld, Germany

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
Steel type	Carbon and carbon-manganese, Alloy
Casting method	Sand casting
Max. weight	5 000 kg
Max. wall thickness	300 mm
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 **2021-08-05**

for **DNV**

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

DNV local station: **Magdeburg**

Approval Engineer: **Enno Brück**

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.



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, VL C520UW, VL C560UW, VL C600UW	SC	5 000	300	N, NT, QT
Alloy	VL C550AW, VL C620AW	SC	5 000	300	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, VL C560U, VL C600U	SC	5 000	300	N, NT, QT
Alloy	VL C550A, VL C600A, VL C690A	SC	5 000	300	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	5 000	300	N, NT, QT
Alloy	VL C0.5Mo, VL C1Cr0.5Mo, VL C2.25Cr1Mo	SC	5 000	300	QT

Castings acc. international standards

Steel type	Standard	Casting method ¹⁾	Max. weight [kg]	Max wall thickness [mm]	Heat treatment condition ²⁾
C and C-Mn, Alloy	EN 10293, EN 10213, EN 10340, SEW520	SC	5 000	300	N, NT, QT

Remarks:

- 1) SC: Sand casting
- 2) N: Normalised
 QT: Quenched and tempered
 NT: Normalised and tempered
- 3) Incl. equivalent grades in acc. to other standards