



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00002CM
Revision No:
2

This is to certify:

That

Stahlhammer Bommern GmbH
Carl-Zeiss-Str.7, 59077 Hamm,
Germany

is an approved manufacturer of
Steel Forgings

in accordance with

DNV rules for classification – Ships
DNV-OS-B101 – Metallic materials

and the following particulars:

Application area	Forgings for hull structures and equipment Forgings for shafting and machinery
Steel type	Carbon and carbon-manganese, Alloy
Forging method	See page 2
Max. Weight	6 000 kg
Heat treatment condition	See page 2
Additional approval conditions	Including forgings for chain cable accessories

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 **2022-01-07**

for **DNV**

This Certificate is valid until **2025-04-30**.

DNV local station: **Essen**

Approval Engineer: **Christian Wildhagen**

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

Forgings for hull structures and equipment

Steel type	Grade ³⁾	Forging method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
C and C-Mn	NV F400UW, NV F440UW, NV F480UW, NV F520UW, NV F560UW, NV F600UW	OD, CD	6 000	N, QT
Alloy	NV F550AW, NV F620AW, NV F650AW	OD, CD	6 000	N, QT

Forgings for shafting and machinery

Steel type	Grade ³⁾	Forging method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
C and C-Mn	VL F400U, VL F440U, VL F480U, VL F520U, VL F560U, VL F600U, VL F640U, VL F680U, VL F720U, VL F760U	OD, CD	6 000	N, QT
Alloy	VL F600A, VL F700A, VL F800A, VL F900A, VL F1000A, VL F1100A	OD, CD	6 000	N, QT

Remarks:

- 1) OD: Open die forging
CD: Closed die forging
- 2) N: Normalised
QT: Quenched and tempered
- 3) Including equivalent grades according to international standards