



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM000000M
Revision No:
2

This is to certify:

That
KB Schmiedetechnik GmbH
Buschmühlenstraße 62,
58093 Hagen,
Germany

is an approved manufacturer of
Steel Forgings

in accordance with
DNV rules for classification – Ships

and the following particulars:

Application area	Forgings for boilers, pressure vessels and piping systems Forgings for hull structures and equipment Forgings for shafting and machinery Stainless steel forgings
Steel type	Carbon and carbon-manganese, Alloy, Austenitic stainless,
Forging method	See page 2
Max. weight	140 kg
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 **2022-07-19**

for **DNV**

This Certificate is valid until **2025-06-30**.

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.



Form code: AM 311

Revision: 2021-03

www.dnv.com

Page 1 of 2

Particulars of the approval

Forgings for boilers, pressure vessels and piping systems

Steel type	Grade ³⁾	Forging method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
C and C-Mn	NV F450H, NV F490H	CD	140	N, NT
Alloy	NV F0.5Mo, NV F1Cr0.5Mo	CD	140	N, NT, QT
	NV F2.25Cr1Mo	CD	140	N, QT

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	CD	140	N, NT, QT
Alloy	NV F550AW, NV F600AW, NV F650AW	CD	140	QT

Forgings for shafting and machinery

Steel type	Grade ³⁾	Forging method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
C and C-Mn	NV F400U, NV F440U, NV F480U, NV F520U, NV F560U, NV F600U, NV F640U, NV F680U, NV F720U, NV F760U	CD	140	N, NT, QT
Alloy	NV F600A, NV F700A, NV F800A, NV F900A, NV F1000A, NV F1100A	CD	140	QT

Stainless steel forgings

Steel type / grade ³⁾	Forging method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
Austenitic stainless	CD	140	SHT

Remarks:

- ¹⁾ CD: Closed die forging
- ²⁾ QT: Quenched and tempered
N: Normalized
NT: Normalized and tempered
SHT: Solution Heat Treated (Solution Annealing)
- ³⁾ Incl. equivalent grades in acc. to other standards