

APPROVAL OF MANUFACTURER CERTIFICATE

Certificate no.:
AMMM00000XR
Revision No:
4

This is to certify:

that

BGH Edelstahl Lippendorf GmbH
Hauptstraße 100, 04575 Lippendorf,
Germany

is an approved manufacturer of
Steel Forgings

in accordance with

DNV rules for classification – Ships
DNV class programme – DNV-CP-0247 Steel forgings

and the following particulars:

Application area	Forgings for hull structures and equipment Forgings for shafting and machinery Forgings for boilers, pressure vessels and piping systems
Steel type	Stainless steel forgings Carbon and carbon-manganese, Alloy, Ferritic stainless, Martensitic stainless, Austenitic stainless, 22Cr duplex stainless, 25Cr duplex stainless
Forging method	Open die forging
Max. weight	15 000 kg
Heat treatment condition	See page 2 and 3

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 **2026-01-12**

This Certificate is valid until **2028-06-30**.

DNV local unit: **Magdeburg**

Approval Engineer: **Stefan Röhr**



for **DNV**

This document has been digitally signed and will
therefore not have handwritten signature

Christian Wildhagen

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 USD 300 000.

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	15 000	N, NT, QT
Alloy	NV F550AW, NV F600AW, NV F650AW	OD	15 000	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	OD	15 000	N, NT, QT
Alloy	NV F600A, NV F700A, NV F800A, NV F900A, NV F1000A, NV F1100A	OD	15 000	QT

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	OD	15 000	N, NT, QT
Alloy	NV F0.5Mo, NV F1Cr0.5Mo	OD	15 000	N, NT, QT
	NV F2.25Cr1Mo	OD	15 000	N, QT

Stainless steel forgings

Steel type / grade ⁴⁾	Forging method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
Austenitic stainless	OD	15 000	SHT
Martensitic stainless	OD	15 000	QT
Ferritic stainless	OD	15 000	A, QT
22Cr duplex stainless	OD	15 000	SHT
25Cr duplex stainless	OD	15 000	SHT

Steel grades acc. to other standards

Grade	Forging method ¹⁾	Max. weight [kg]	Heat treatment condition ²⁾
Steel acc. to EN 10250-2	OD	15 000	acc. to standard
Steel acc. to EN 10250-3	OD	15 000	acc. to standard
Steel acc. to EN 10250-4	OD	15 000	acc. to standard
Steel acc. to EN 10222-2	OD	15 000	acc. to standard
Steel acc. to EN 10222-4	OD	15 000	acc. to standard
Steel acc. to EN 10222-5	OD	15 000	acc. to standard

Steels grades acc. to other standards

Grade ⁵⁾	Forging method ¹⁾	Max. weight [kg]	Max. thickness [mm]	Heat treatment condition ²⁾
31CrMoV9 +QT acc. to DIN EN ISO 683-5 (1.8519)	OD	5 000	250	QT

Remarks:

- 1) OD: Open die forging
- 2) QT: Quenched and tempered
 N: Normalized
 NT: Normalized and tempered
 SHT: Solution Heat Treated (Solution Annealing)
 A: Annealed
- 3) Incl. equivalent grades in acc. to other standards
- 4) Stainless steel forgings shall be in accordance with recognized standards, e.g. EN 10222, ASTM A473/A965/A1049 and JIS G 3214, provided that supplementary requirements contained herein are also met. Recognition of other standards is subject to submission to the Society for evaluation.
- 5) For DNV plan- or type approved applications