

APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00000DX
Revision No:
1

This is to certify:

That
BGH Edelstahl Freital GmbH
Am Stahlwerk 1
Freital, Germany

is an approved manufacturer of
Steel Forgings

in accordance with
DNV GL rules for classification – Ships

and the following particulars:

Product	Open die forgings (incl. bars and seamless rolled rings)
Steel type(s)	Forgings for hull structures and equipment Forgings for shafting and machinery Forgings for gearing Stainless steel forgings
Max. weight	32000 kg
Delivery Condition	Normalized, normalized + tempered, annealed, quenched + tempered, solution annealed + quenched
Remarks	see Particulars of the approval

Manufacturer(s) approved by this certificate is/are accepted to deliver according to DNV GL, DNV and GL rules.

This Certificate is valid until **2019-02-24**.

Issued at **Hamburg** on **2016-02-25**

for **DNV GL**

DNV GL local station: **Magdeburg**

Approval Engineer: **Oliver Krömer**

Thorsten Lohmann
Head of Section

Job Id: **263.11-003440-2**
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Particulars of the approval

Forgings:

Grade	Product	Supply Condition	Casting Method	Diameter [mm], max.	Weight [kg], max.
Forgings for hull structures and equipment					
F400UW, F440UW, F480UW, F520UW, F560UW, F600UW	FF, ST	N, N+T, Q+T	CC, IC	900	32000
F550AW, F600AW, F650AW	FF, ST	Q+T	CC, IC	900	32000
Forgings for shafting and machinery					
F400U, F440U, F480U, F520U, F560U, F600U, F640U, F680U, F720U, F760U	FF, ST	N, N+T, Q+T	CC, IC	900	32000
F600A, F700A, F800A, F900A, F1000, F1100A	FF, ST	Q+T	CC, IC	900	32000
Non-alloy steels					
C & C-Mn steels acc. to EN 10083-2	FF, ST	N, N+T, Q+T	CC, IC	900	32000
C & C-Mn steels acc. to EN 10250-2	FF, ST	N+T, Q+T	CC, IC	900	32000
C & C-Mn steels acc. to EN 10084	FF, ST	N+T, Q+T	CC, IC	900	32000
C & C-Mn steels acc. to SEW 550	FF, ST	N+T, Q+T	CC, IC	900	32000
Alloy steels					
Alloy steels acc. to EN 10083-3	FF, ST	Q+T	CC, IC	900	32000
Alloy steels acc. to EN 10250-3	FF, ST	Q+T	CC, IC	900	32000
Alloy steels acc. to EN 10084	FF, ST	Q+T	CC, IC	900	32000
Alloy steels acc. to SEW 550	FF, ST	Q+T	CC, IC	900	32000
Stainless steels					
Austenitic steels acc. to EN 10088-3	FF, ST	S+Q	CC, IC	900	32000
Austenitic steels acc. to EN 10222-5	FF, ST	S+Q	CC, IC	900	32000
Duplex steels acc. to EN 10088-3	FF, ST	S+Q	CC, IC	900	32000
Duplex steels acc. to EN 10222-5	FF, ST	S+Q	CC, IC	900	32000
Ferritic steels acc. to EN 10088-3	FF, ST	A	CC, IC	900	32000

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Grade	Product	Supply Condition	Casting Method	Diameter [mm], max.	Weight [kg], max.
Martensitic steels acc. to EN 10088-3	FF, ST	Q+T	CC, IC	900	32000
Martensitic steels acc. to EN 10222-5	FF, ST	Q+T	CC, IC	900	32000

FF: open die forgings ST: forged bars N: normalized N+T: normalized + tempered A: annealed
Q+T: quenched + tempered S+Q: solution annealed + quenched CC: continuous casting IC: ingot casting