



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM000028A
Revision No:
1

This is to certify:

That

Afflerbach Bödenpresserei GmbH & Co KG
Puderbach and Dernbach Works, Germany

is an approved manufacturer of
Pressed Parts

in accordance with
DNV GL rules for classification – Ships
DNV GL rules for classification – Naval vessels

and the following particulars:

Application area	Pressed parts
Steel type	Carbon, carbon-manganese, Alloy, Austenitic stainless Austenitic-ferritic (duplex) stainless Non-magnetizable Steel
Manufacturing method	Cold forming, hot forming
Max. thickness	See page 2
Max. diameter	See page 2
Heat treatment condition	See page 2
Additional approval conditions	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 **2021-03-12**

This Certificate is valid until **2024-07-31**.

DNV local station: **Essen**

Approval Engineer: **Stefan Röhr**



for **DNV**

Digitally Signed By: Wildhagen, Christian

Location: DNV GL Hamburg, Germany

Signing Date: 15.03.2021, on behalf of

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

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Particulars of the approval

Pressed parts

Steel type / grade	Heat treatment condition ¹⁾	Max. thickness [mm]	Max. diameter [mm]
VL A, VL B, VL D, VL E	N	35	6500
VL A32, VL A36, VL D32, VL D36, VL E32, VL E 36	N	35	6500
S235J0, S235J2, S235JR, S275J0, S275J2, S275JR S355J0, S355J2, S355JR, S355K2 acc. to EN 10025-2	N	35	6500
S690-QL1 acc. to EN 10025-6	QT	20	6500
P235GH, P265GH, P295GH, P355GH acc. to EN 10028-2	N	35	6500
16Mo acc. to EN 10028-2	N	35	6500
18MnMo4-5 acc. to EN 10028-2	NT, QT	35	6500
20MnMoNi4-5 acc. to EN 10028-2	QT	35	6500
10CrMo9-10, 12CrMo9-10, 13CrMo4-5, 13CrMoSi5-5, 12CrMoV12-10, 13CrMoV9-10 acc. to EN 10028-2	NT, QT	35	6500
X10CrMoVNb9-1, X12CrMo5 acc. to EN 10028-2	NT, QT	35	6500
P275NH, P275NL1, P275NL2, P355N0, P355NH, P355NL1, P355NL2 acc. to EN 10028-3	N	35	6500
VL 0.5Ni	N	35	6500
VL 1.5Ni, VL 2.25Ni, VL 3.5Ni, VL 5Ni, VL 9Ni	N, NT, QT	35	6500
11MnNi5-3, 13MnNi6-3 acc. to EN 10028-4	N, NT	35	6500
15NiMn6, 12Ni14 acc. to EN 10028-4	N, NT, QT	35	6500
X12Ni5, X8Ni9 acc. to EN 10028-4	N, NT, QT	35	6500
X7Ni9 acc. to EN 10028-4	QT	35	6500
1.4301, 1.4307, 1.4401, 1.4404, 1.4541, 1.4571 acc. to EN 10028-7, 304, 304L, 316, 316L, 316 Ti, 321 acc. to SA-240	SHT	100	6500
1.4462 acc. to VdTÜV-WB 418	SHT	35	6500
1.3964 acc. to BWB WL 1.3964-1	SHT	35	6500

Remarks:

- ¹⁾ N: Normalised; QT: Quenched and tempered; NT: Normalised and tempered;
 SHT: Solution Heat Treated (solution annealing)

Additional approval conditions:

Welding is permitted according to approved procedure WPS 319 Rev.1 as well as other welding procedures approved by DNVGL.