



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM000005F
Revision No:
5

This is to certify:

That

Salzgitter Mannesmann Grobblech GmbH
Sandstraße 140, 45473 Mülheim an der Ruhr,
Germany

is an approved manufacturer of
Rolled Steel Products

in accordance with

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

and the following particulars:

Application area	High strength steel Z-grade steels (plates with through thickness properties) Steels for boiler and pressure vessels Steel for low temperature service
Products	Plates
Manufacturing method	Basic Oxygen Converter, Continuous casting
Max. thickness	See page 2
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 **2022-09-07**

This Certificate is valid until **2025-10-12**.

DNV local station: **Essen**

Approval Engineer: **Christian Wildhagen**



for **DNV**

Digitally Signed By: Roehr, Stefan

Location: DNV Hamburg, Germany

Signing Date: 08.09.2022 , 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

Revision: 2021-03

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Particulars of the approval

High strength steel

Grade	Product	Steel making ¹⁾	Fine grain elements	Max. thickness [mm]	Heat treatment condition ²⁾	Z- quality
NV A36, NV D36, NV E36, NV F36	Plates	BOC, CC	Al+Nb+Ti	90	TM	Z35

Rolled steels for boiler and pressure vessels

Grade ³⁾	Product	Steel making ¹⁾	Fine grain elements	Max. thickness [mm]	Heat treatment condition ²⁾	Z-quality
NV 360-0A, -0N, NV 360-1FN, NV 360S-1FN, NV 410-0A, -0N, NV 410-1FN, NV 410S-1FN, NV 460-0A, -0N, NV 460-1FN, NV 460S-1FN, NV 490-0N, NV 490-1FN, NV 510-1FN, NV 510S-1FN	Plates	BOC, CC	Al+Nb+Ti	90	TM	Z35

Steel for low temperature service

Grade ³⁾	Product	Steel making ¹⁾	Fine grain elements	Max. thickness [mm]	Heat treatment condition ²⁾	Z-quality
NV 360-2FN	Plates	BOC, CC	Al+Nb+Ti	40	TM	Z35
NV 2-2	Plates	BOC, CC	Al+Nb+Ti	40	TM	Z35
NV 2-3	Plates	BOC, CC	Al+Nb+Ti	40	TM	Z35
NV 2-4	Plates	BOC, CC	Al+Nb+Ti	30	TM	Z35
NV 2-4L	Plates	BOC, CC	Al+Nb+Ti	25	TM	Z35
NV 4-2	Plates	BOC, CC	Al+Nb+Ti	40	TM	Z35
NV 4-3	Plates	BOC, CC	Al+Nb+Ti	40	TM	Z35
NV 4-4	Plates	BOC, CC	Al+Nb+Ti	30	TM	Z35
NV 4-4L	Plates	BOC, CC	Al+Nb+Ti	25	TM	Z35

Remarks:

- ¹⁾ BOC: Basic Oxygen Converter
- ²⁾ TM: Thermo-Mechanical Rolling
- ³⁾ Including equivalent steel grades according to EN 10028