

APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00000Z7
Revision No:
1

This is to certify:

That

Mannstaedt GmbH
Mendener Strasse 51, 53840 Troisdorf,
Germany

is an approved manufacturer of
Rolled Steel Products

in accordance with
DNV GL rules for classification – Ships

and the following particulars:

Application area	Normal strength steel
	High strength steel
Products	Bulb flats
Max. thickness / diameter	See page 2
Heat treatment condition	As rolled, controlled rolled
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 GL classed object shall fulfill the material requirements in the applicable DNV GL class rules.

Issued at **Hamburg** on **2019-10-07**

for **DNV GL**

This Certificate is valid until **2022-11-30**.

DNV GL local station: **Essen**

Approval Engineer: **Christian Wildhagen**

Thorsten Lohmann
Head of Section



Job Id: **263.11-002207-3**
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Particulars of the approval

Normal strength steel

Grade	Product	Fine grain elements	Max. thickness [mm]	Heat treatment condition ²⁾
VL A	Bulb flat	Al	12 ³⁾	AR

High strength steel

Grade	Product	Fine grain elements	Max. thickness [mm]	Heat treatment condition ²⁾
VL A32, VL A36, VL D32, VL D36	Bulb flat	Al	12 ³⁾	AR, CR

Remarks:

- 1) BOC: Basic oxygen converter
EAF: Electric arc furnace
LF: Ladle furnace
CC: Continuous casting
IC: Ingot casting
- 2) AR: as rolled
CR: controlled rolled
- 3) Dimensions from HP60 to HP240