

APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM0000027**This is to certify:**

That

Mannstaedt GmbH
Mendener Strasse 51, 53840 Troisdorf, Germanyis an approved manufacturer of
Rolled Steel Productsin accordance with
DNV GL rules for classification – Ships

and the following particulars:

Product	Bulb flats
Grade(s)	Normal and higher strength steel
Deoxidation	killed
Fine grain elements	Al, Al+V
Delivery conditions	As rolled, controlled rolled
Max. thickness/diam.	See particulars of the approval
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. 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 **2016-10-17**This Certificate is valid until **2019-11-30**.
DNV GL local station: **Essen**Approval Engineer: **Christian Wildhagen**for **DNV GL**
Digitally Signed By: Roehrl, Stefan
Location: DNV GL Hamburg, Germany
Signing Date: 2016-10-17 , on behalf of**Thorsten Lohmann**
Head of Section

Job Id: **263.11-002207-2**
Certificate No: **AMMM00000Z7**

Particulars of the approval

Rolled steel products:

Grade	Product	Supply Condition	Casting Method	Thickness [mm], max.	Micro-alloy
Normal strength steel					
VL A	WFS	AR	CC	12 ¹⁾	Al
High strength steel					
VL A32, VL A36, VL D32, VL D36	WFS	AR, CR	CC	12 ¹⁾	Al

WFS: bulb flats CC: continuous casting AR: as rolled CR: controlled rolled

Remark:

¹⁾ Dimensions from HP60 to HP240