

APPROVAL OF MANUFACTURER CERTIFICATE

This is to certify:

That
Mannesmann Line Pipe GmbH
Siegen, Germany

is an approved manufacturer of
Pipes and structural hollow sections

in accordance with
DNV GL rules for classification – Ships

and the following particulars:

Products	Pipes
	Structural hollow sections
Application area	Pipes for pressure systems
	Normal strength steel
	High strength steel
Manufacturing method	Longitudinal HFI Welding
Max. outer diameter	See page 2
Max. wall 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 GL classed object shall fulfill the material requirements in the applicable DNV GL class rules.

Issued at **Hamburg** on **2018-09-19**

for **DNV GL**

This Certificate is valid until **2021-07-31**.

DNV GL local station: **Essen**

Approval Engineer: **Stefan Röhr**

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Thorsten Lohmann
Head of Section



Particulars of the approval

Pipes for pressure systems

Steel type / grade ^{3) 4)}	Manufacturing method ¹⁾	Max. outer diameter [mm]	Max. wall thickness [mm]	Delivery condition ²⁾
Carbon, Carbon-Manganese	ERW	406.4	16.0	N or NT

Structural hollow sections

Steel type / grade ³⁾	Manufacturing method ¹⁾	Max. outer diameter [mm]	Max. wall thickness [mm]	Delivery condition ²⁾
S235JRH, S275J0H, S275J2H, S355J0H, S355J2H, S355K2H, S275NH, S275NLH, S355NH, S355NLH, S420NH, S420NLH, S460NH, S460NLH acc. to EN 10210-1	ERW	406.4	16.0	Acc. to standard
S235JRH, S275J0H, S275J2H, S355J0H, S355J2H, S355K2H, S275NH, S275NLH, S355NH, S355NLH, S420NH, S420NLH, S460NH, S460NLH acc. to EN 10219-1				

Pipes for applications subject to special approval

Steel type / grade ⁵⁾	Manufacturing method ¹⁾	Max. outer diameter [mm]	Max. wall thickness [mm]	Delivery condition ²⁾
L245NE, L290 NE, L360NE, L415NE, L245ME, L290ME, L360ME, L415ME, L450ME and L450ME acc. to ISO 3183	ERW	406.4	16.0	Acc. to standard
B, X42, X46, X52, X56, X60, X65 and X70 acc. to API 5L (PSL1/PSL2)				

Remarks:

- 1) ERW: electric resistance welded (High Frequency Induction Welding)
- 2) N: Normalised; Normalised and Tempered
- 3) Certification of any material applied to classed object shall fulfill the applicable material requirements in the DNV GL class rules
- 4) Suitable pipe grades shall be selected from the following recognized standards:
ISO 9329 Parts 1 and 2, ISO 9330 Parts 1 and 2, EN 10216 Parts 1 to 3, EN 10217 Parts 1 to 3,



Job Id: **263.11-008535-1**
Certificate No: **AMMM000029J**

EN 10305 Part 1 and 2, ASTM A53, ASTM A106, ASTM A135, ASTM A335, JIS G3454, JIS G3455, JIS G3456 and JIS G3458

- 5) Possible application and certification of any material to classed object is subject to case by case approval