



Certificate No : MD00/1806/0008/1

**SALZGITTER MANNESMANN GROBBLECH GmbH**  
**Sandstrasse 140**  
**D-45473 Mülheim an der Ruhr**  
**Germany**

has been approved as a manufacturer in accordance with the requirements of Lloyd's Register for :-

**Steel Plates**

This approval is subject to compliance with the Rules for the Manufacture, Testing and Certification of Materials. The full details of the processes and grades to which this approval applies are given in the Appendix of this certificate.

Lloyd's Register is to be notified of any change that may affect the validity of this Certificate.

This Certificate is issued to the above manufacturer and is valid until the date given below.

**Valid Until : 26 April 2020**  
**Date of Issue : 27 July 2017**

A handwritten signature in blue ink, appearing to read 'Colin Waylen', is written over a horizontal line.

**Colin Waylen**  
Principal Specialist to Lloyd's Register EMEA  
A member of the Lloyd's Register group

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Appendix 1

**SALZGITTER MANNESMANN GROBBLECH GmbH**  
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<b>Plates</b>	<b>Normal Strength</b>	<b>Grades</b>	<b>mm thickness Maximum</b>
As Rolled	Fine Grain Al	A, B, D	35.0
As Rolled	Killed	A, B	50.0
Normalized	Fine Grain Al	A, B, D, E	50.0
Normalized	Killed	A, B	50.0
<b>Plates</b>	<b>Higher Strength</b>	<b>Grades</b>	<b>mm thickness Maximum</b>
As Rolled	Fine Grain Al	DH27S, DH32, DH36	25.0
As Rolled	Fine Grain Al	AH27S, AH32, AH36	35.0
Normalized	Fine Grain Al	AH27S, AH32, AH36, DH27S, DH32, DH36, EH27S, EH32, EH36	50.0
<b>Plates</b>	<b>Boiler &amp; Pressure Vessel</b>	<b>Grades</b>	<b>mm thickness Maximum</b>
As Rolled	Killed	360AR, 410AR	40.0
Normalized	Fine Grain Al	360FG, 410FG, 460FG, 490FG, 510FG	50.0
Normalized	Killed	360, 410	50.0
<b>Plates</b>	<b>Austenitic Stainless</b>	<b>Grades</b>	<b>mm thickness Maximum</b>
Solution Treated	-	304L, 316L	50.0

Heat treatment of Duplex grade UNS S31803 steel plates rolled at Thyssen Stahl AG. Duisburg-Sud Works

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