



Certificate No : MD00/1282/0012/1

**SSAB EMEA AB
OXELÖSUND
S-61380 Oxelösund
Sweden**

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

Steelmaking, Semi-Finished Products and 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 Appendices 1 to 3 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 : 23 April 2020
Date of Issue : 26 September 2017**

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

Clive Arnold
Senior Metallurgical Specialist to Lloyd's Register EMEA
A member of the Lloyd's Register group



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Appendix 1

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Steelmaking	B.O.S. / Con Cast	Grades	mm thickness Maximum
		As below	
Semi-Finished Products	Slabs	Grades	mm thickness Maximum
		As below	286.0
Plates	Normal Strength	Grades	mm thickness Maximum
As Rolled	Fine Grain Al	D	35.0
As Rolled	Fine Grain Al	A, B	60.0
Normalized	Fine Grain Al	A, B, D, E	75.0
Plates	Higher Strength	Grades	mm thickness Maximum
Normalized	Fine Grain Al+Nb	AH27S, AH32, AH36, DH27S, DH32, DH36, EH27S, EH32, EH36	60.0
Normalized	Fine Grain Al+Nb+Ti	AH32, DH32, EH32	60.0
Normalized	Fine Grain Al	AH27S, DH27S, EH27S	60.0
Normalizing Rolled	Fine Grain Al+V+Ti	AH27S, AH32, AH36, DH27S, DH32, DH36	50.0
Normalizing Rolled	Fine Grain Al	AH27S, DH27S	50.0
Quenched and Tempered	Fine Grain Al+Nb+V+Ti	AH46, AH50, AH55, AH62, AH69, DH46, DH50, DH55, DH62, DH69, EH46, EH50, EH55, EH62, EH69, FH46, FH50, FH55, FH62, FH69	80.0
Quenched and Tempered	Fine Grain Al+Nb+Ti	AH40, AH42, DH40, DH42, EH40, EH42	60.0
Quenched and Tempered	Fine Grain Al+V+Ti	DH42, DH46, DH50, EH32, EH40, EH42, EH46, EH50, FH32, FH36, FH40, FH42, FH46	70.0
Quenched and Tempered	Fine Grain Al+V+Ti	FH50	80.0
Thermo Mechanical	Fine Grain Al+Nb+V+Ti	FH32, FH36, FH42	40.0
Thermo Mechanical	Fine Grain Al+Nb+V+Ti	DH27S, DH32, DH36, DH40, DH42, EH27S, EH32, EH36, EH40, EH42	50.0

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Appendix 2

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Plates	Higher Strength	Grades	mm thickness Maximum
Thermo Mechanical	Fine Grain Al+Nb+V+Ti	AH27S, AH32, AH36, AH40, AH42	60.0
Thermo Mechanical	Fine Grain Al+Nb+Ti	FH27S, FH32, FH36, FH40	40.0
Thermo Mechanical	Fine Grain Al+Nb+Ti	DH27S, DH32, DH36, DH40, EH27S, EH32, EH36, EH40	50.0
Thermo Mechanical	Fine Grain Al+Nb+Ti	AH27S, AH32, AH36, AH40	60.0
Plates	Boiler & Pressure Vessel	Grades	mm thickness Maximum
Normalized	Fine Grain Al+Nb	360FG, 410FG, 460FG, 490FG, 510FG	60.0
Normalized	Fine Grain Al+Nb+Ti	360FG, 410FG, 460FG, 490FG, 510FG	60.0
Normalized	Fine Grain Al+V+Ti	360FG, 410FG, 460FG, 490FG, 510FG	60.0
Normalized	Al+Nb+Ni	460FG	60.0
Normalized	Fine Grain Al	460FG, 490FG, 510FG	25.0
Normalized	Fine Grain Al	360FG, 410FG	75.0
Normalizing Rolled	Fine Grain Al+V+Ni	360FG, 410FG, 460FG, 490FG	40.0
Normalizing Rolled	Fine Grain Al+V+Ti	360FG, 410FG, 460FG, 490FG, 510FG	50.0
Plates	Ferritic Low Temperature	Grades	mm thickness Maximum
Normalized	Fine Grain Al+Nb	LTAH27S, LTAH32, LTAH36, LTDH27S, LTDH32, LTDH36, LTEH27S, LTEH32, LTEH36	40.0
Normalized	Fine Grain Al	LTAH27S, LTDH27S, LTEH27S	40.0
Normalizing Rolled	Fine Grain Al+V+Ti	LTAH27S, LTAH32, LTAH36, LTDH27S, LTDH32, LTDH36	40.0
Normalizing Rolled	Fine Grain Al	LTAH27S, LTDH27S	40.0
Thermo Mechanical	Fine Grain Al+Nb+V+Ti	LTAH27S, LTAH32, LTAH36, LTAH40, LTDH27S, LTDH32, LTDH36, LTDH40, LTEH27S, LTEH32, LTEH36, LTEH40	40.0
Thermo Mechanical	Fine Grain Al+Nb+Ti	LTAH27S, LTAH32, LTAH36, LTAH40, LTDH32, LTDH36, LTDH40, LTEH32, LTEH36, LTEH40, LTFH27S, LTFH32, LTFH36, LTFH40	40.0

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Appendix 3

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All plates with specified through thickness properties: Z25 and Z35 designations.
Semi-finished products in carbon and carbon-manganese steel with fine grain (element combinations as stated), slabs to 1680 mm wide, to 11000mm long of maximum weight 30T for further processing to rolled products

Materials Quality Scheme Approved - Approval No. MQS 049

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