

APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM000017R
Revision No:
1

This is to certify:

That

SSAB EMEA AB
SE-613 80 Oxelösund,
Sweden

is an approved manufacturer of
Steelmaking and Rolled Steel Products

in accordance with
DNV GL rules for classification – Ships

and the following particulars:

Application area	Normal strength steel High strength steel Extra high strength steel Steels for boiler and pressure vessels Steel for low temperature service
Products	Plates
Manufacturing method	Basic oxygen converter, Continuous casting
Max. thickness / diameter	See page 2
Heat treatment condition	See page 2
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 **2020-01-14**

for **DNV GL**

This Certificate is valid until **2023-01-31**.
DNV GL local station: **Sweden**

Approval Engineer: **Christian Wildhagen**

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Thorsten Lohmann
Head of Section



Job Id: **263.11-000061-4**
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Particulars of the approval

Normal strength steel

Grade	Steel making ¹⁾	Fine grain elements	Max. thickness [mm]	Heat treatment condition ²⁾	Z-quality
VL A, VL B	BOC, CC	-	50	AR	Z35
		-	80	N	Z35
VL D	BOC, CC	-	35	AR	Z35
		-	75	N	Z35
VL E	BOC, CC	Al	75	N	Z35

High strength steel

Grade	Steel making ¹⁾	Fine grain elements	Max. thickness [mm]	Heat treatment condition ²⁾	Z-quality
VL A27S	BOC, CC	-	25	AR, N	Z35
		Al	35	AR	Z35
		Al	50	N	Z35
VL D27S, VL E27S	BOC, CC	Al	50	N	Z35
VL A32, VL D32, VL A36, VL D36	BOC, CC	Al+Ti+V+N	50	N, NR	Z35
		Al+Nb+Ti	50	TM	Z35
VL E32, VL E36	BOC, CC	Al+Ti+V+N	50	N	Z35
		Al+Nb+Ti	50	TM	Z35
VL A40, VL D40, VL E40	BOC, CC	Al+Nb+N	50	N	Z35

Extra high strength steel

Grade	Steel making ¹⁾	Fine grain elements	Max. thickness [mm]	Heat treatment condition ²⁾	Z-quality
VL A460, VL D460, VL E460, VL A500, VL D500, VL E500, VL A550, VL D550, VL E550, VL A620, VL D620, VL E620, VL A690, VL D690, VL E690	BOC, CC	Al+Nb+Ti+V ³⁾	80	QT	Z35

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Rolled steels for boiler and pressure vessels

Grade	Steel making ¹⁾	Fine grain elements	Max. thickness [mm]	Heat treatment condition ²⁾	Z-quality
VL 360-0A, VL 410-0A, VL 460-0A	BOC, CC	-	50	AR	Z35
VL 360-0N, VL 410-0N, VL 460-0N, VL 490-0N	BOC, CC	-	50	N, NR, TM	Z35
VL 360-1FN, VL 410-1FN, VL 460-1FN, VL 490-1FN, VL 510-1FN	BOC, CC	Al	50	N, NR, TM	Z35

Steel for low temperature service

Grade	Steel making ¹⁾	Fine grain elements	Max. thickness [mm]	Heat treatment condition ²⁾	Z-quality
VL 2-3, VL 2-4, VL 4-4, VL 4-4L	BOC, CC	Al or Al+Nb+N	50	N	Z35

Remarks:

- 1) BOC: Basic oxygen converter
CC: Continuous casting
- 2) AR: as rolled
NR: normalising rolling
TM: thermo-mechanical rolling
N: normalised
QT: quenched and tempered
- 3) The steel is fine grained and microalloyed to a total of at least 0,040% of a combination of these elements.