

APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM00000M5
Revision No:
2

This is to certify:

That

PJSC "AZOVSTAL IRON & STEEL WORKS" **Mariupol Donetsk region, Ukraine**

is an approved manufacturer of
Steelmaking and Rolled Steel Products

in accordance with
DNV GL rules for classification – Ships

and the following particulars:

Product	Plates
Grade(s)	Rolled steel for structural application
Steelmaking	Basic oxygen converter, Continuous casting
Deoxidation	Killed
Fine grain elements	See particulars of the approval
Delivery conditions	See particulars of the approval
Max. thickness/diam.	See particulars of the approval

Manufacturer(s) approved by this certificate is/are accepted to deliver according to DNV GL, DNV and GL rules.

This Certificate is valid until **2019-05-31**.

Issued at **Hamburg** on **2016-06-15**

DNV GL local station: **Odessa**

Approval Engineer: **Christian Wildhagen**



for **DNV GL**

Digitally Signed By: Roehr, Stefan

Location: DNV GL Hamburg, Germany

Signing Date: 2016-06-16 , on behalf of

Thorsten Lohmann
Head of Section

Job Id: **263.11-005998-1**
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Particulars of the approval

Rolled steel products:

Grade	Product	Supply Condition	Casting Method	Thickness [mm], max.	Fine grain elements	Z-quality
Normal strength steel						
VL A (NV A, GL-A)	BL	NR/CR	CC	50	Al	Z35
	BL	N	CC	50	Al or Al+Nb	Z35
	BL	N	CC	100	Al	-
	BL	N	CC	50	Al or Al+Ti	-
VL B (NV B, GL-B)	BL	NR/CR	CC	50	Al	Z35
	BL	N	CC	50	Al or Al+Nb	Z35
	BL	N	CC	100	Al	-
	BL	N	CC	50	Al or Al+Ti	-
VL D (NV D, GL-A)	BL	N	CC	50	Al or Al+Nb	Z35
	BL	N	CC	50	Al or Al+Ti	-
	BL	CR	CC	40	Al	Z35
VL E (NV E, GL-E)	BL	N	CC	50	Al	-
	BL	NR/CR	CC	20	Al	-
Higher strength steel						
VL A32 (NV A32, GL-A32)	BL	NR/CR	CC	20	Al+Nb	-
	BL	NR/CR	CC	50	Al+Nb+V	Z35
	BL	N	CC	100	Al+Nb	-
	BL	N	CC	40	Al or Al+Ti	-
	BL	N	CC	50	Al+Nb+V	Z35
	BL	QT	CC	50	Al+Nb+V+Ti	-
	BL	N	CC	40	Al+Nb	Z25
VL D32 (NV D32, GL-D32)	BL	NR/CR	CC	20	Al+Nb	-
	BL	NR/CR	CC	50	Al+Nb+V	Z35
	BL	N	CC	50	Al+Nb	-
	BL	N	CC	40	Al or Al+Ti	-
	BL	N	CC	50	Al+Nb+V	Z35
	BL	QT	CC	50	Al+Nb+V+Ti	-
	BL	N	CC	40	Al+Nb	Z25
VL E32 (NV E32, GL-E32)	BL	N	CC	40	Al+Nb	Z25
	BL	N	CC	40	Al+Nb+V+Ti	-
	BL	N	CC	50	Al+Nb+V	Z35
	BL	NR/CR	CC	20	Al+Nb	-
	BL	QT	CC	50	Al+Nb+V+Ti	-
	BL	N	CC	50	Al+Nb	Z35

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Grade	Product	Supply Condition	Casting Method	Thickness [mm], max.	Fine grain elements	Z-quality
Higher strength steel						
VL A36 (NV A36, GL-A36)	BL	NR/CR	CC	20	Al+Nb	-
	BL	NR/CR	CC	50	Al+Nb+V	Z35
	BL	N	CC	40	Al+Nb	Z25
	BL	N	CC	100	Al+Nb+V	-
	BL	N	CC	62	Al+Nb+V	Z35
	BL	N	CC	40	Al+Nb+V+Ti	-
	BL	QT	CC	50	Al+Nb+V+Ti	-
VL D36 (NV D36, GL-D36)	BL	NR/CR	CC	20	Al+Nb	-
	BL	NR/CR	CC	50	Al+Nb+V	Z35
	BL	N	CC	40	Al+Nb	Z25
	BL	N	CC	62	Al+Nb+V	Z35
	BL	N	CC	40	Al+Nb+V+Ti	-
	BL	QT	CC	50	Al+Nb+V+Ti	-
VL E36 (NV E36, GL-E36)	BL	N	CC	40	Al+Nb	Z25
	BL	N	CC	62	Al+Nb+V	Z35
	BL	QT	CC	50	Al+Nb+V+Ti	-
	BL	N	CC	40	Al+Nb+V+Ti	-
VL A40, VL D40, VL E40, VL F40 (NV A40, NV D40, NV E40, NV F40, GL-A40, GL-D40, GL-E40, GL-F40)	BL	QT	CC	42	Al+Nb+V	-
Non-alloy structural steels acc. to EN 10025-2						
S235JR, S235J0, S235J2 S275JR, S275J0, S275J2 S355JR, S355J0, S355J2, S355K2	BL	acc. to standard	CC	120	acc. to standard	Z35
Weldable fine grain steels acc. to EN 10025-3						
S275N, S275NL S355N, S355NL	BL	acc. to standard	CC	120	acc. to standard	Z35

BL: plate NR/CR: normalised/controlled rolled
 CC: continuous casting

N: normalised

Q+T: quenched and tempered