



**CERTIFICATE OF APPROVAL OF MANUFACTURERS OF  
MATERIALS  
No. FAB001318XY**

**This is to certify that the manufacture of the product identified below is in compliance with the applicable requirements of the RINA Rules for the Approval of Manufacturers of Materials.**

<i>Description</i>	<b>Normal strength and higher strength hull steel plates</b>
<i>Type</i>	<b>Hot rolled plates</b>
<i>Manufacturer</i>	<b>GRADES A - B - D - E - AH32/36 - DH32/36 - EH32/36</b>
<i>Place of manufacture</i>	<b>PJSC 'AZOVSTAL IRON &amp; STEEL WORKS' 1, LEPORSKOOGO STREET, MARIUPOL DONETSK REGION, 87500 UKRAINE</b>
<i>Reference standards</i>	<b>RINA Rules for the approval of manufacturers of materials</b>

**Issued in RINA Ukraine Survey Station on September 5, 2018. This Certificate is valid until July 29, 2023**



**RINA Services S.p.A.  
Marius Fugaru**

This certificate consists of this page and 1 enclosure



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Hot rolled plates

**APPROVAL CONDITIONS**

**Deoxidation practice, condition of supply and thickness:**

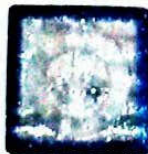
<b>Normal Strength steels:</b>						
Grade or type:	Steelmaking <sup>1</sup> :	Fine grain treatment:	Deoxidation practice:	Delivery condition <sup>2</sup> :	Max. thickness (mm):	Z-quality:
A	BOC, CC	Al	Si, Mn	AR	50	-
		Al	Si, Mn	N	100	Z35 <sup>3</sup>
		Al	Si, Mn	NR	20	Z35
B	BOC, CC	Al	Si, Mn	AR	50	-
		Al	Si, Mn	N	100	Z35 <sup>3</sup>
		Al	Si, Mn	NR	20	Z35
D	BOC, CC	Al	Si, Mn	AR	35	-
		Al	Si, Mn	N	90	Z35 <sup>3</sup>
		Al	Si, Mn	NR	40	Z35
E	BOC, CC	Al	Si, Mn	N	90	-
<b>High Strength steels:</b>						
Grade or type:	Steelmaking <sup>1</sup> :	Fine grain treatment:	Deoxidation practice:	Delivery condition <sup>2</sup> :	Max. thickness (mm):	Z-quality:
AH32	BOC, CC	Al, Nb	Si, Mn	N	100	Z35 <sup>3</sup>
		Al, Nb	Si, Mn	NR	40	Z35
		Al, Nb, V, Ti	Si, Mn	QT	50	-
DH32	BOC, CC	Al, Nb	Si, Mn	N	50	Z35
		Al, Nb	Si, Mn	NR	40	Z35
		Al, Nb, V, Ti	Si, Mn	QT	50	-
EH32	BOC, CC	Al, Nb, V	Si, Mn	N	50	Z35
		Al, Nb, V	Si, Mn	QT	50	-
AH36	BOC, CC	Al, Nb, V	Si, Mn	N	100	Z35 <sup>3</sup>
		Al, Nb	Si, Mn	NR	40	Z35
		Al, Nb, V, Ti	Si, Mn	QT	50	Z35
DH36	BOC, CC	Al, Nb, V	Si, Mn	N	50	Z35
		Al, Nb	Si, Mn	NR	40	Z35
		Al, Nb, V, Ti	Si, Mn	QT	50	Z35
EH36	BOC, CC	Al, Nb, V	Si, Mn	N	50	Z35
		Al, Nb, V, Ti	Si, Mn	QT	50	Z35

**Remarks:**

<sup>1</sup> BOC: Basic Oxygen Converter; CC: Continuous Casting.

<sup>2</sup> AR: As Rolled; N: Normalized; QT: Quenched and Tempered; NR: Normalizing Rolled.

<sup>3</sup> Maximum thickness - 50 mm.





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**Hot rolled plates**

**Survey conditions:**

The plates are to be in compliance in all respects with the relevant RINA Rules and are to be tested accordingly.

**General conditions for the approval:**

- The approval is granted on condition that the RINA Rules for the approval, manufacture, testing and certification of materials are complied with in all respects.
- RINA is to be notified of any change of materials, manufacturing process, quality control routines that may affect the validity of this certificate.

**RINA Ukraine Survey Station**

**September 5, 2018**



A handwritten signature in blue ink, written over the large, faint RINA logo watermark.