



**CERTIFICATE OF APPROVAL OF MANUFACTURERS OF  
MATERIALS**

**No. FAB001519XY**

**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 AND STEEL WORKS' 1, LEPORSKOGO 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 **January 31, 2020**. *This Certificate is valid until* **July 29, 2023**



  
RINA Services S.p.A.  
*M.P.* **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:

Normal Strength steels:						
Grade or type:	Steelmaking <sup>1</sup> :	Fine grain treatment:	Deoxidation practice:	Delivery condition <sup>2</sup> :	Max. thickness (mm):	Z-quality:
<b>A</b>	<b>BOC, CC</b>	Al	Si, Mn	<b>AR</b>	50	-
		Al	Si, Mn	<b>N</b>	100	Z35 <sup>3</sup>
		Al	Si, Mn	<b>NR</b>	20	Z35
<b>B</b>	<b>BOC, CC</b>	Al	Si, Mn	<b>AR</b>	50	-
		Al	Si, Mn	<b>N</b>	100	Z35 <sup>3</sup>
		Al	Si, Mn	<b>NR</b>	20	Z35
<b>D</b>	<b>BOC, CC</b>	Al	Si, Mn	<b>AR</b>	35	-
		Al	Si, Mn	<b>N</b>	90	Z35 <sup>3</sup>
		Al	Si, Mn	<b>NR</b>	40	Z35
<b>E</b>	<b>BOC, CC</b>	Al	Si, Mn	<b>N</b>	90	-
High Strength steels:						
Grade or type:	Steelmaking <sup>1</sup> :	Fine grain treatment:	Deoxidation practice:	Delivery condition <sup>2</sup> :	Max. thickness (mm):	Z-quality:
<b>AH32</b>	<b>BOC, CC</b>	Al, Nb	Si, Mn	<b>N</b>	100	Z35 <sup>3</sup>
		Al, Nb	Si, Mn	<b>NR</b>	40	Z35
		Al, Nb, V, Ti	Si, Mn	<b>QT</b>	50	-
		Al, Nb, Ti	Si, Mn	<b>TM</b>	30	Z25, Z35
<b>DH32</b>	<b>BOC, CC</b>	Al, Nb	Si, Mn	<b>N</b>	50	Z35
		Al, Nb	Si, Mn	<b>NR</b>	40	Z35
		Al, Nb, V, Ti	Si, Mn	<b>QT</b>	50	-
		Al, Nb, Ti	Si, Mn	<b>TM</b>	30	Z25, Z35
<b>EH32</b>	<b>BOC, CC</b>	Al, Nb, V	Si, Mn	<b>N</b>	50	Z35
		Al, Nb, V	Si, Mn	<b>QT</b>	50	-
		Al, Nb, Ti	Si, Mn	<b>TM</b>	30	Z25, Z35
<b>AH36</b>	<b>BOC, CC</b>	Al, Nb, V	Si, Mn	<b>N</b>	100	Z35 <sup>3</sup>
		Al, Nb	Si, Mn	<b>NR</b>	40	Z35
		Al, Nb, V, Ti	Si, Mn	<b>QT</b>	50	Z35
		Al, Nb, Ti	Si, Mn	<b>TM</b>	30	Z25, Z35
<b>DH36</b>	<b>BOC, CC</b>	Al, Nb, V	Si, Mn	<b>N</b>	50	Z35
		Al, Nb	Si, Mn	<b>NR</b>	40	Z35
		Al, Nb, V, Ti	Si, Mn	<b>QT</b>	50	Z35
		Al, Nb, Ti	Si, Mn	<b>TM</b>	30	Z25, Z35
<b>EH36</b>	<b>BOC, CC</b>	Al, Nb, V	Si, Mn	<b>N</b>	50	Z35
		Al, Nb, V, Ti	Si, Mn	<b>QT</b>	50	Z35
		Al, Nb, Ti	Si, Mn	<b>TM</b>	30	Z25, 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; **TM**: Thermo-Mechanical Rolling.

<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 respect 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**  
**January 31, 2020**

