



Marine & Offshore

Certificate number: 08458/E0 BV

File number: MAT 2569/02

Product code: 90071

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## APPROVAL CERTIFICATE for MATERIALS

*This certificate is issued to*

**PJSC AZOVSTAL IRON & STEEL WORKS**

Mariupol - UKRAINE

*for the type of product*

**HIGHER STRENGTH HULL STEEL ROLLED PRODUCTS**

Hot rolled plates in steel grade AH32, DH32, EH32, AH36, DH36, EH36

**Requirements:**

Bureau Veritas Rules on Materials and Welding for the Classification of Marine Units

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.*

**This certificate will expire on: 05 Oct 2025**

**For Bureau Veritas Marine & Offshore,**

At BV ODESSA, on 05 Oct 2020,

Yevgen KUZNETSOV



## **THE SCHEDULE OF APPROVAL**

### **1. PRODUCT DESCRIPTION :**

Hot rolled plates.

Steel grade	Deoxydation practice & Refining	Delivery conditions
AH32 / DH32 AH36 / DH36	Killed and Al+Nb or Al+Nb+V fine grain treated	Normalised (N) with thickness up to 50mm Normalising Rolled (NR) with thickness up to 40mm
EH32 EH36	Killed and Al+Nb or Al+Nb+V fine grain treated	Normalised (N) with thickness up to 50mm

Steelmaking by basic oxygen converter and Continuous Casting. Plates hot rolled from continuous cast slabs with reduction ratio above 5:1.

### **2. DOCUMENTS AND DRAWINGS :**

As per following documents issued by PJSC Azovstal Iron & Steel works:

- "Technical assessment report for steel mill approval under BV Mode II survey scheme" dated 2010.
- "Technical report for compliance with the approval terms for manufacture of shipbuilding quality steel plates at AZOVSTAL" dated 2010.
- "Technical report on extension for shipbuilding steel rolled plate production as controlled rolled delivery in accordance with the rules of Bureau Veritas" Edition No.1 dated 07/02/2015.

### **3. TEST REPORTS :**

As per following documents issued by PJSC Azovstal Iron & Steel works:

- "Report for Bureau Veritas on certification of steel plates, Grades BVA, BVB, BVD, BVA32, BVD32, BVA36, BVD36 in delivery condition normalizing rolling" dated 03/11/1998.
- "Technical report on compliance of hull shipbuilding steel production at AZOVSTAL works to BUREAU VERITAS approval conditions" dated 19/05/1999.
- "Tests results" transmitted by BV Mariupol mail 226-00 BV MRP dated 07/09/2000.
- "Technical report for compliance with the approval terms for manufacture of shipbuilding quality steel plates at AZOVSTAL" dated 2010.
- "Approval tests report for extent of normalizing rolled steels thickness according to Bureau Veritas Rules NR 480" Edition No.1 dated 07/02/2015.
- "Approval report of weldability test of BV DH36 grade steel according to Bureau Veritas Rules NR 480" Edition No.1 dated 07/02/2015.
- "Assesment of survey results during period 2015-2020" dated September 2020.

### **4. APPLICATION / LIMITATION :**

As per Bureau Veritas Rules for Classification.

### **5. PRODUCTION SURVEY REQUIREMENTS :**

- 5.1 - The steel plate are to be supplied by PJSC Azovstal Iron & Steel works in compliance with the type and the requirements described in this certificate.
- 5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.
- 5.3 - BV product certificate is required.

### **6. MARKING OF PRODUCT :**

As per Bureau Veritas Rules for Classification.

### **7. OTHERS :**

This certificate replaces approvals No.AC/UKR-01-01-247, and from No.08458/A0 BV to No. 08458/D0 BV.

**\*\*\* END OF CERTIFICATE \*\*\***