



Marine &amp; Offshore

Certificate number: 23897/C1 BV

File number: MAT 64519-2011

Product code: 9007I

*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*

**China Hunan Valin Xiangtan Iron and Steel Co., Ltd.**  
Xiangtan - CHINA

*for the type of product*

### HIGHER STRENGTH HULL STEEL ROLLED PRODUCTS

Hot rolled plates in steel grades AH32, DH32, EH32, FH32, AH36, DH36, EH36 and FH36 including Z25/Z35 grades.

#### 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 May 2026**

**For Bureau Veritas Marine & Offshore,**

At BV SHANGHAI, on 04 Feb 2023,

Jennifer Zhang

*This certificate was created electronically and is valid without signature*



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.



## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION :

Hot Rolled Plates produced at 5M Wide and Heavy Plate Plant:

Steel grade	Deoxydation practice & Refining	Delivery conditions
AH32, DH32 AH36, DH36 (Z25/Z35)	Al-Killed and Al fine grain treated	Controlled Rolled (CR) with thickness up to 40mm
AH32, DH32, EH32 AH36, DH36, EH36 (Z25/Z35)	Al-Killed and Al+Nb+Ti fine grain treated	Thermomechanical Controlled Processing (TMCP) with thickness up to 40mm
AH32, DH32, EH32 AH36, DH36, EH36 (Z25/Z35)	Al-Killed and Al+Nb+Ti+V fine grain treated	Normalised (N) with thickness up to 150mm
FH32, FH36 (Z25/Z35)	Al-Killed and Al+Nb+Ti+V fine grain treated	Normalised (N) with thickness up to 120mm

Steelmaking by Basic Oxygen Furnace, LF Refining and Vacuum Degassing. Continuous Casting.

### 2. DOCUMENTS AND DRAWINGS :

- 2.1 - As per following documentation issued by China Hunan Valin Xiangtan Iron and Steel Co., Ltd:
- "Application materials of shipbuilding structural steel slab and plate approval" dated 28 August 2010.
  - "5 Meter wide and heavy plate plant application for normal and high strength steel plate approval" dated 02 April 2018.
  - "3,8 Meter wide heavy plate plant steel making, 5 Meter wide heavy plate plant rolling and heat treatment plant application for high strength steel EH36/FH36" dated 20 December 2021.
  - "Type approval test plan of high strength hull structural steel EH36Z35 - FH36Z35" submitted 06 December 2022.
  - "EH36Z35 Welding test plan"; "FH36Z35 Welding test plan" submitted 06 December 2022.
  - "Quality control plan for EH36Z35 steel plate approval"; "Quality control plan for FH36Z35 steel plate approval" dated 14 March 2022.
  - "Standardized operation system for post of heat treatment maker No.GSW/F265-058-2019" dated 09 December 2019.

### 3. TEST REPORTS :

3.1 - As per following reports issued by China Hunan Valin Xiangtan Iron and Steel Co., Ltd:

- "Test Report 1 and Test Report 2" dated 24 December 2010.
- "Testing and verifying report of ship materials N°J11002-1" dated 10 January 2011.
- "Testing and verifying report of ship materials N°J11002-3" dated 10 January 2011.
- Test report dated 05/09/2018.
- "Manufacturer Approval of hull structure steel slab and plate EZ35 and EH36Z35", Original records dated 15/10/2018.
- "Testing and verifying report of EH36Z35 steel plates - Drop weight test" Ref.20181028-2 dated October 2018.
- "Welding test report for plates EH36Z35" Ref.20181030-2 dated October 2018.
- "Test report (EH36Z35, FH36Z35)" and "Original records" dated 30 September 2022.
- "Welding test report for plates FH36Z35 Ref.20220928" dated September 2022.
- "Welding test report for plates EH36Z35 Ref.20220926" dated September 2022.
- "Testing and verifying report of EH36Z35/FH36Z35 steel plates Ref.20220620" dated June 2022.

3.2 - As per following reports issued by Wuhan University of technology school of transportation:

- CTOD testing report dated 10/12/2018.
- CTOD testing report No.HNVXTIS-2022-08 dated 13/09/2022.
- CTOD testing report No HNVXTIS-2022-09 dated 13/09/2022.

**4. APPLICATION / LIMITATION :**

As per Bureau Veritas Rules for Classification.

**5. PRODUCTION SURVEY REQUIREMENTS :**

5.1 - The steel plates are to be supplied by China Hunan Valin Xiangtan Iron & Steel Co., Ltd. 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.

In addition to the material grade designation products are to be marked with the symbol Z25 or Z35 as appropriate.

**7. OTHERS :**

This certificate replaces approvals from No.23897/A0 BV to No.23897/C0 BV.

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