



Marine & Offshore

Certificate number: 23883/C0 BV

File number: MAT 11240-2011

Product code: 8153I

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

SeAH Besteel Corporation
Jeollabuk-do - KOREA (REPUBLIC OF)

for the type of product

STEEL FORGINGS

Crank Throw for semi-built crankshaft in carbon manganese steels of maximum weight 40 tons.

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 is a renewal of certificate N° 23883/B0 BV expiring on 20/04/2022

This certificate will expire on: 20 Apr 2027

For Bureau Veritas Marine & Offshore,

At BV PUSAN, on 15 Feb 2022,

Chang-Uk HONG



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 :

Crank throw up to 40 tons intended for semi-built crankshaft.

Typical grade is S34MnV according to MAN Diesel A/S specification Revision No. P182-3.

Forgings are Normalized and Tempered.

2. DOCUMENTS AND DRAWINGS :

- "Documents for BV type approval" No. QA-BTA-1011-01 Rev.0 issued by SeAH Besteel Corp. dated 09 November 2010.

3. TEST REPORTS :

- "Results for approval test Man B&W - Crank throw" issued by SeAH Besteel Corp. dated 05 April 2011.

4. APPLICATION / LIMITATION :

As per Bureau Veritas Rules for Classification.

Chemical composition, tensile properties and Charpy-V notch test requirements are to be as per Bureau Veritas Rules NR216 and/or alternative specification mentioned on reviewed drawings, as applicable.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1-The forgings are to be supplied by SeAH Besteel Corp. 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 from No.23883/A0 BV to 23883/B0 BV.

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