



MARINE DIVISION

Certificate number: 16027/A0 BV

File number: MAT 61796-2013

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

Shanxi Taigang Stainless Steel Co. Ltd.

Taiyuan - CHINA

for the type of product

STEEL FORGINGS

Carbon, carbon-manganese and alloy steel forgings with maximum weight 12 tons.

Requirements:

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

This certificate is issued to attest that BUREAU VERITAS 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: 19 Jun 2018

For BUREAU VERITAS,

At BV SHANGHAI, on 19 Jun 2013,

Jennifer Zhang



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. 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 Division 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 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 :

Shaft forgings in carbon , carbon-manganese and alloy steel.

Production line	Type of steel	Maximum weight	Maximum diameter	Delivery condition
Radial forging production line	Carbon , Carbon-manganese and alloy steel	12 tons	400 mm	Normalized + Tempered
Quick forging production line	Carbon , Carbon-manganese and alloy steel	5 tons	300 mm	Normalized + Tempered

2. DOCUMENTS AND DRAWINGS :

- "Steel forging for BV Works approval document" issued by Shanxi Taigang Stainless steel Co. Ltd and dated December 2012.
- Forging process cards issued by Shanxi Taigang Stainless steel Co. Ltd.

3. TEST REPORTS :

Typical tested grades are :

- 42 CrMo4 for alloy steel according to EN 10250-3.
- S44SY for carbon-manganese steel according to B&W Diesel A/S specification.
- "Steel forging for BV Works approval document" issued by Shanxi Taigang Stainless steel Co. Ltd and dated December 2012.
- "Source recording list of cause" issued by Shanxi Taigang Stainless steel Co. Ltd and dated 25 September 2012.

4. APPLICATION / LIMITATION :

As per Bureau Veritas Rules for Classification.

Steel grade specification for chemical composition and mechanical properties is to be as per Bureau Veritas Materials Rules for Classification and/or material specification reviewed by the Society, as applicable.

5. PRODUCTION SURVEY REQUIREMENTS :

The steel forgings are to be supplied by Shanxi Taigang Stainless Steel Co. Ltd in compliance with the type and the requirements described in this certificate.

This type of product is within the category IBV of Bureau Veritas Rule Note NR320.

BV product certificate is required.

6. MARKING OF PRODUCT :

As per Bureau Veritas Rules for Classification.

7. OTHERS :

Nil.

*** END OF CERTIFICATE ***