



Certificate number: 37381/A0 BV

File number: MAT 72455-2013

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

PJSC ENERGO MASH SPETSSTAL

Kramatorsk - UKRAINE

for the type of product

STEEL FORGINGS

Carbon-manganese, low-alloy and alloy steel forgings with maximum weight up to 95 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: 11 Mar 2019

For BUREAU VERITAS,

At BV ODESSA, on 11 Mar 2014,

Evgueni KUZNETSOV



A handwritten signature in black ink, appearing to be 'E. Kuznetsov', written over a diagonal line.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Carbon-manganese, low-alloy and alloy steel forgings with maximum weight up to 95 tons.

Forgings are made from ingots by upsetting. Forgings are heat treated as applicable.

2. DOCUMENTS AND DRAWINGS :

- "Preliminary and special information for forgings production approval in accordance with the requirements of Bureau Veritas" issued by PJSC Energomashspetsal dated 06/12/2013.

3. TEST REPORTS :

Typical tested grades are :

- S355J2+N according to EN 10025-2 for carbon-manganese steel,
- Steel grade according to specification No. 2/4501168819 for carbon-manganese steel,
- 26NiCrMoV145 according to specification No. HW 19373 Rev.04 for alloy steel,
- 35XM, 40XH according to GOST 4543-71 for low-alloy steel.

- Test report " The testing of products for forgings production approval in accordance with the requirements of Bureau Veritas" issued by PJSC Energomashspetsal dated 06/12/2013.

-As per documents Ref. 20yMK/29 dated 17/01/2014, Ref. 20yMk/79 dated 28/01/2014, Ref.20yMk/125 dated 06/02/2014 issued by PJSC Energomashspetsal.

4. APPLICATION / LIMITATION :

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.

As per Bureau Veritas Rules for Classification.

5. PRODUCTION SURVEY REQUIREMENTS :

The steel forgings are to be supplied by PJSC Energomashspetsal 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 ***