



Marine & Offshore

Certificate number: 22358/C0 BV

File number: MAT 24469-2009

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

LUCCHINI RS SPA
LOVERE (BG) - ITALY

for the type of product

STEEL FORGINGS

Carbon, carbon-manganese, low alloy and alloy steels forgings with 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 will expire on: 11 Feb 2025

For Bureau Veritas Marine & Offshore,

At BV VENEZIA, on 11 Feb 2020,

Sandro BRUSEGAN



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 :

Carbon, carbon-manganese, low alloy and alloy steels forgings with maximum weight 40 tons.

Steelmaking in Electric Arc Furnace and LF Refining Forgings are heat treated as applicable.

2. DOCUMENTS AND DRAWINGS :

- "Ship building steel castings and forgings : General documents book" issued by Lucchini RS and dated 1 July 2009.
- "General principles for the visual control method (VT)" issued by Lucchini RS and dated 30 August 2007.
- " General procedure for the ultrasonic inspection" issued by Lucchini RS and dated 24 February 2009.
- " General procedure for the magnetoscopic inspection" issued by Lucchini RS and dated 24 February 2009.
- " General procedure for the liquid penetrant inspection" issued by Lucchini RS and dated 21 February 2011.
- " General procedure for the radiographic inspection" issued by Lucchini RS and dated 10 June 2010.

3. TEST REPORTS :

Typical tested grades are C45E according to EN10250-2 for Carbon steels; FE510D according to UNI7746 for C-Mn steels; 42CrMo4 according to EN10083-1 for low alloy steels; Class 1 according to MIL-S-23284A for alloy steels.

- "Ship building steel castings and forgings : General documents book" issued by Lucchini RS and dated 1 July 2009.
- Mechanical test certificates 09-289TEC, 09-283TEC, 09-285TEC and 09-276TEC issued by Lucchini RS and dated 1 July 2009.
- Micrographic test certificates 09-290MTL, 09-262MTL, 09-263MTL and 09-260MTL issued by Lucchini RS and dated 1 July 2009.
- Ladle analysis certificates 09-292CHI, 09-301CHI, 09-296CHI, 09-307CHI, 09-297CHI, 09-310CHI, 09-294CHI and 09-303CHI issued by Lucchini RS and dated 1 July 2009.

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 approved drawings, as applicable.

5. PRODUCTION SURVEY REQUIREMENTS :

- 5.1 - The steel forgings are to be supplied by LUCCHINI RS SPA 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. 22358/A0 BV, No. 22358/B0 BV.

*** END OF CERTIFICATE ***