



Marine & Offshore

Certificate number: 22359/C0 BV

File number: MAT 24469-2009

Product code: 8154I

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 CASTINGS

Carbon, carbon-manganese, low alloy, alloy and stainless steels castings with maximum weight 135 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, alloy and stainless steel castings with maximum weight 135 tons.

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

2. DOCUMENTS AND DRAWINGS :

As per following documents issued by Lucchini RS:

- "IT. IPG 137 Rev.2" dated 12 May 2011,
- "Quality system processes of Lucchini RS group sites",
- "Ship building steel castings and forgings : General documents book" dated 1 July 2009 and " Lucchini RS SPA presentation",
- "General principles for the visual control method - document Group standard N° GS-QC-003-0" dated 30 August 2007,
- "General procedure for the ultrasonic inspection - document Group standard N° GS-QC-021-0" dated 24 February 2009,
- "General procedure for the liquid penetrant inspection - document Group standard N° GS-QC-063-0" dated 21 February 2011,
- "General procedure for the radiographic inspection - document Group standard N° GS-QC-064-0" dated 10 June 2010,
- "General procedure for the magnetoscopic inspection - document Group standard N° GS-QC-041-0" dated 24 February 2009,

- "PTF 121/SEC/KSB Rev.4" issued by SAFAS and dated 27 october 2010.
- "Requirements for C12A Casting material - specification IT-C-005 Rev.2" issued by Lazaro Ituarte Valves and dated 27 May 2010.

3. TEST REPORTS :

Typical tested grades are: FE G400 according to UNI3158 for Carbon steels; FE G450 according to UNI3158 for C-Mn steels; 90-60 Mod according to ASTM A148 for low alloy steels; C12A according to the manufacturer specification IT-C-005 Rev.2 for alloy steels; Z 3CN20.09-M according to the manufacturer specification IT. IPG 137 Rev.2 and PTF/SEC-KSB Rev.4 for stainless steels.

- "Ship building steel castings and forgings : General documents book" issued by Lucchini RS and dated 1 July 2009.
- Mechanical test certificates 09-270TEC and 09-272TEC issued by Lucchini RS and dated 1 July 2009.
- Micrographic test certificates 09-257MTL and 09-266MTL issued by Lucchini RS and dated 1 July 2009.
- Ladle analysis certificates 09-308CHI, 09-311CHI, 09-309CHI and 09-305CHI issued by Lucchini RS and dated 1 July 2009.
- Tests reports , WPS N°142 Rev.1 and PQR N° 141 for grade 90-60 Mod ASTM 148, Heat 121770
- Tests reports , WPS N°83 Rev.1 and PQR N° 98 Rev.1 for grade C12A IT-C-005 Rev.2, Heat 131977
- Tests reports for grade Z3CN20-09M , Heat 121602.

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 castings 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 N° 22359/A0 BV, N° 22359/A1 BV and N° 22359/B0 BV.

*** END OF CERTIFICATE ***