



Marine & Offshore

Certificate number: 40136/B0 BV

File number: MAT 25199-2016

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

FORGIARAPIDA Srl

Bologna - ITALY

for the type of product

STEEL FORGINGS

Carbon-manganese, Alloy, Austenitic and Duplex Stainless steel forgings

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: 21 Sep 2026

For Bureau Veritas Marine & Offshore,

At BV VENEZIA, on 21 Sep 2021,

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-manganese steel forgings: Typical production is Flange, Wheel, Frame Block made by Rolled ring forging process with total forging reduction ratio 8.3 to 20.7 and weight up to 1700 kg.

Alloy steel forgings: Typical production is Pinion, Control screw made in 40NiCrMo7 as per UNI 7874 made by open die forging process with typical forging reduction ratio 4.6 to 7.2 and weight up to 800 kg.

Austenitic stainless steel forgings with maximum weight 100kg. Forgings are made from ingot by open die forging and ring rolling.

Duplex stainless steel forgings with maximum weight 100kg. Forgings are made from ingot by open die forging and ring rolling.

No Steelmaking. Heat treatment as applicable.

2. DOCUMENTS AND DRAWINGS :

As per following document issued by Forgiarapida Srl:

- Ref.MPP 979/2014 dated 15/10/2014; MPP 980/2014 dated 16/10/2014,
- Ref.ORG Rev.04 dated 12/03/2012; List of procedure datet 16/12/2014, Equipment Rev.02 dated 16/12/2015.
- "Material specification - SGAM0026_001" dated 30/11/2020.
- "NDT documentation" dated 09/09/2021.

3. TEST REPORTS :

Typical tested grades are :

- 40NiCrMo7 as per UNI 7874 for alloy steels.
- S355 according to Specification Ref.103819 Rev.01 dated 19/09/2014 for C-Mn steels.
- 316L as per ASTM A473 for austenitic stainless steel.
- F51 as per ASTM A182 for duplex stainless steel.

As per following inspection certificates issued by Forgiarapida Srl:

- Ref.1797/14 dated 17/12/2014; Ref.1785/14, Ref.1798/14, Ref.1786/14 dated 11/12/2014,
- Ref.C0018/15, Ref.C0019/15, Ref.C0021/15, Ref.C0022/15, Ref.C0023/15, Ref.C0024/15 dated 15/01/2015,
- Test report Ref.19120/2016 dated 04/05/2016 issued by Remet controllli s.a.s.,
- "Test report - 316L" dated 09/02/2021,
- "Test report - F51" dated 17/04/2020.

4. APPLICATION / LIMITATION :

As per Bureau Veritas Rules for Calssification. 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 steel forgings are to be supplied by Forgiarapida Srl 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° 40136/A0 BV.

*** END OF CERTIFICATE ***