Marine & Offshore

Certificate number: 75096/A0 BV
File number: MAT 71322-2023
Product code: 8157I

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

Fonderie Mora Gavardo S.p.A.

Gavardo (BS) - ITALY

for the type of product

IRON CASTINGS

Grey iron casting grade EN-GJL-250

Requirements:
Bureau Veritas Rules on Materials and Welding for the Classification of Marine Units
IMO MSC.1/Circ.1622 "Guidelines for the acceptance of alternative metallic materials for cryogenic service in ships carrying liquefied gases in bulk and ships using gases or other low-flashpoint fuels"

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: 25 Jan 2029

For Bureau Veritas Marine & Offshore,
At BV NAPOLI, on 25 Jan 2024,
Sandro BRUSEGAN

This certificate was created electronically and is valid without signature

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 :

Grey iron casting for pressure retaining parts used for low temperature applications. Castings have typical weight up to 500 Kg.

Melting scraps by induction furnace. Sand casting. Castings are delivered As Cast.

2. DOCUMENTS AND DRAWINGS :

2.1-Documents issued by Fonderie Mora Gavardo S.p.A.:
- Company and manufacturing process data including: FMG cast and machining presentation formNo.101 Rev.1 dated 08/01/2024, Operating procedure Ref.PR.OP.FMG31 Rev.02 dated February 2023.

2.2-Chemical composition (wt%) on ladle and mechanical properties for grey cast iron EN-GJL-250 according to specification Ref.0011_0120_00_ed2 dated 01/09/1994:

C	Si	Mn	P	S	C-ekv(1)
3.3 3.6	1.8 2.4.	0.6 0.8	0.35 max.	0.15 max.	3.3 3.6

(1)C-ekv=%C+%Si/4+%P/2.

Yield strength Rp0,2 (N/mm²)	Tensile strength (N/mm²)	Elongation A5d(%)	Hardness HB
-	200-300	-	160-210

(1)Mechanical properties at 20°C, separately cast blanks for test samples

3. TEST REPORTS :

3.1-Reports issued by Fonderie Mora Gavardo S.p.A.:
Ref.856L23 dated 23/11/2023 issued for casting – Heat No. 00083011, No.00093011 made in grade EN-GJL-250.

4. APPLICATION / LIMITATION :

4.1-As per Bureau Veritas Rules for Classification.

4.2-As far as Classification is concerned, the grey cast iron EN-GJL-250 is approved as alternative metallic material according to IMO Guidelines MSC.1/Circ.1622 for applications involving the storage and handling of liquefied gases that refer to IGC Code and IGF Code.

4.3-Suitability of grey cast iron EN-GJL-250 for use in storage and handling equipment to be used with gases subject to special requirements listed in column "*i*" of the table of the IGC Code, chapter 19 of IGC is not covered by this approval. In particular, approval for use for anhydrous ammonia and carbon dioxide applications is not covered by this certificate.

4.4 - Castings are delivered as cast and are to be visually examined. Supplementary examination of castings delivered in finished condition is to be specified by end user.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1-The grey cast iron EN-GJL-250 castings are to be supplied by Fonderie Mora Gavardo S.p.A 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.
5.4 - For information, Fonderie Mora Gavardo S.p.A has declared to Bureau Veritas the following production site:

Fonderie Mora Gavardo S.p.A
Via G. Quarena, 207
25085 Gavardo (BS) Italy

6. MARKING OF PRODUCT :

As per Bureau Veritas Rules for Classification.

7. OTHERS :

It is Fonderie Mora Gavardo S.p.A's responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

***** END OF CERTIFICATE *****