



| | |
|----------------------|------------------------------|
| CERTIFICATE NUMBER | 19-GE1920312-PDA |
| EFFECTIVE DATE | 09-Dec-2019 |
| EXPIRY DATE | 08-Dec-2024 |
| ABS TECHNICAL OFFICE | Genoa Engineering Department |

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

RACCORDERIE METALLICHE SPA

located at

**STRADA SABBIONETANA, 59, CAMPITELLO DI MARCARIA
(MANTOVA), Italy, 46010**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product Piping System and Fittings

Model MARINEPRES

This Product Design Assessment (PDA) Certificate remains valid until 08/Dec/2024 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

Cristina Generale, Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

RACCORDERIE METALLICHE SPA
STRADA SABBIONETANA, 59
CAMPITELLO DI MARCARIA (MANTOVA)
Italy 46010
Telephone: +390376960291
Fax: +39037696422
Email: info@racmet.com
Web: WWW.RACMET.COM

Tier: 5 - Unit Certification Required

Product: Piping System and Fittings

Model: MARINEPRES

Intended Service:

Installation on board ships and offshore unites in the following systems: fresh and sea water cooling, deck washing, sprinkler, ballast, bilge, sanitary fresh and sea water.

Description:

CuNiFe piping system and fittings with integral O-ring seal. Manufacturer recommended O-ring seals:
EPDM -20 C deg to 120 C deg (up to 16 bar)
NBR -20 C deg to 70 C deg (up to 5 bar)
FKM -20 C deg to 220 C deg (up to 16 bar)
MVQ -20 C deg to 180 C deg dedicated for Fire Test (up to 16 bar)
Fittings are pressed (crimped) in place by means of pressing tool according to Manufacturer's Technical Handbook.

Rating:

Pipe sizes OD x t [mm]: 15 x 1.0, 18 x 1.0, 22 x 1.0, 28 x 1.5, 35 x 1.5, 42 x 1.5,
54 x 1.5, 76.1 x 2.0, 88.9 x 2.0, 108 x 2.5.
Design Pressure: 16 bar
Design Temperature: dep. on sealing (see description).

Service Restriction:

Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Only MVQ O-ring type is to be used where fire endurance is required. The compression couplings cannot be used for gaseous media services.

Comments:

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Each particular application, including deck/bulkhead penetrations of the press fitting system is to be specifically approved in connection with the relevant system and installation.

The manufacturer's instructions regarding compatibility of pipe/fitting/sealing ring materials and working media are to be followed.

Notes/Drawing/Documentation:

Fire Test report no 1511/13/AC from LAPI dated 24 Oct 2013:
Drawing No. Marinepres Fire Test AT LAPI dated 29 Oct 2013, Revision: 0, Pages: 1
Test Report no 1102526-001 from TTR Institute dated 12 Nov 2013:
Drawing No. Marinepres Vibration+Pulsation Test at TTR dated 10 Oct 2013, Revision: 0, Pages: 1
Drawing No. TTR_additional information_vibr+pulspress_marinepres, TTR_additional information_vibr+pulspress_Marinepres,Revision: 0, Pages: 1
Drawing No. TTR_additional information_vibr+pulspress_marinepres2, TTR_additional information_vibr+pulspress_Marinepres2,Revision: 0, Pages: 1
Test Report no 11729 rev. 0 from CÉTENA dated 25 Oct 2013: Drawing No. Test Report Cetena Marinepres, Test Report Marinepres, Revision: 0, Pages: 1
Drawing No. Marinepres Product Range, Marinepres Product Range,Revision: 0, Pages: 1
Drawing No. SAG 76-108-2, SAG 76-108-2, Revision: 0, Pages: 1
Drawing No. SAG15-54-2, SAG15-54-2, Revision: 0, Pages: 1

RACCORDERIE METALLICHE SPA
STRADA SABBIONETANA, 59
CAMPITELLO DI MARCARIA (MANTOVA)
Italy 46010
Telephone: +390376960291
Fax: +39037696422
Email: info@racmet.com
Web: WWW.RACMET.COM

Tier: 5 - Unit Certification Required

Terms of Validity:

This Product Design Assessment (PDA) Certificate remains valid until 08/Dec/2024 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

STANDARDS

ABS Rules:

2019 Rules for Conditions of Classification – Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2019 Mobile Offshore Units Rules 4-2-1/11

2019 Rules for Conditions of Classification, 1-1-4/7.7, 1-1 A3, 1-1-A4, which covers the following:

2019 Marine Vessels Rules 4-6-2/5.9

2019 Steel Vessels Rules 4-6-2/5.9

2019 Steel Vessels Under 90 Meters (295 Feet) in Length Rules, 4-4-2/13.7

2019 Offshore Support Vessels Rules, 4-6-2/5.9

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA