



CERTIFICATE NUMBER
EFFECTIVE DATE
EXPIRY DATE
ABS TECHNICAL OFFICE

22-2223829-PDA
07-Apr-2022
06-Apr-2027
London Engineering Department

CERTIFICATE OF Product Design Assessment

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

AVK NEDERLAND B.V.

located at

SCHORSWEG 1, VAASSEN, Netherlands, 8171 ME

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, Mechanical Joint
Model: REPICO® S Coupling & REPICO® SG Coupling
Endorsements:
Tier: 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 06/Apr/2027 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

mohammed abbas

Mohammed K.M. Abbas,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)

AVK NEDERLAND B.V.

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Product: Piping System, Mechanical Joint
Model: REPICO® S Coupling & REPICO® SG Coupling
Endorsements:

Intended Service:

Connection of plain-ended pipes of carbon steel, stainless steel, Cu and CuNiFe materials for general shipboard and offshore piping Systems in conjunction with the Service Restrictions and limits imposed by the ratings.

Description:

Slip-on joint couplings - Axially non-restrained (type S) and half-restrained (type SG) pipe couplings.

Material Details:

Body: Stainless steel 316

Slide plate: Stainless steel 316

Fasteners: Stainless steel 316

Grip segment and Support ring (REPICO® SG Coupling only) : Stainless steel 301H

Sealing: NBR or EPDM

Rating:

Repico® S

ND (mm) ND (inch) Maximum working pressure (bar)

15 mm to 50 mm (¾ inch to 2 inch) - 16 bar
65 mm to 125 mm (2½ inch to 5 inch) -14 bar
150 mm (6 inch)- 12 bar
200 mm , 250 mm (8 inch , 10 inch) - 8bar
300 mm, 350 mm (12 inch, 14 inch) - 7 bar
400 mm (16 inch) - 6 bar

Repico® SG

20 mm to 50 mm (¾ inch to 2 inch) - 16 bar
65 mm to 125 mm (2½ inch to 5 inch) -14 bar
150 mm (6 inch)- 12 bar
200 mm , 250 mm (8 inch , 10 inch) - 8bar
300 mm (12 inch) - 7 bar

Temperature Ratings

Sealing material Min. temp. (°C) Max. temp. (°C)

NBR -25 to +80

EPDM -30 to +110

Repico® type FRC fire resistant cover will extend the application of the coupling from a standard coupling to a fire resistant type for sizes from DN 32 to DN 400.

Service Restriction:

- 1) Usage of these couplings is limited to those systems and locations as per 4-6- 2/ Table 10 & 11 of ABS Marine Vessels Rules.
- 2) Couplings that are required to be fire-resistant as per Rules are to be protected with a Repico® type FRC fire resistant cover.
- 3) Not for use in those systems where pressure pulsation other than water hammer is expected.

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- 4) The couplings are not to be located outboard of shell valves.
- 5) The maximum pipe misalignment and maximum allowable axial movement are not to exceed the manufacturer's recommendations.
- 6) Piping must be effectively secured and supported to prevent the couplings from being subjected to end load pressures.
- 7) Installation of the coupling is to be in accordance with the manufacturer's instructions.
- 8) 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.

The couplings in general are not acceptable in following systems as per 4-6-2/ Table 10 & 11 of ABS Marine Vessel Rules:

1. Class 1 piping
2. CO2 systems
3. Starting and Control air systems
4. Inside machinery spaces of category A or accommodation spaces for :
 - a. pipe systems for flammable liquids including corresponding vent/ overflow and sounding pipes
 - b. Inert gas main piping
5. Steam piping systems for Class I and II
6. Steering gear hydraulic systems
7. Scuppers and discharge (overboard). Deck drains, except for pipes above the freeboard decks.
8. Piping sections directly connected to the vessel's side below the bulkhead deck of passenger vessels and freeboard deck of cargo vessels or tanks containing flammable fluids.
9. Pipelines in cargo holds, tanks and other spaces that are not easily accessible, unless approved by ABS. Application of these joints inside tanks may be permitted only for the same media that is in the tanks.
10. Usage of slip type slip-on joints as the main means of pipe connection is not permitted except for cases where compensation of axial pipe deformation is necessary.

Comments:

- 1) Sealing material utilized are to be as per manufacturers' recommendation
- 2) Couplings have been prototype tested in accordance with c: Rev 4 March 2016 and fire endurance tested with a Repico® type FRC fire resistant cover in accordance with ISO 19921:2005
- 3) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
- 4) Each coupling is to be marked with permanent identification, such as manufacturer's name or trademark, standard of compliance, material identity, pressure rating, etc., as required by the standard of compliance or the manufacturer's specification.

Notes/Drawing/Documentation:

AVK Nederland BV Burst pressure tests Repico SG 60,3 / 114,3 / 219,1 mm NBR dated 1 September 2021

AVK Nederland BV Burst pressure test Repico SG 219,1 mm EPDM dated 25 March 2021

AVK Nederland BV Tightness test Repico SG 60,3 / 114,3 / 219,1 mm NBR. dated 1 September 2021

AVK Nederland BV Tightness test Repico SG 114,3 mm EPDM .dated 1 September 2021

AVK Nederland BV Vacuum test Repico SG 60,3 / 114,3 mm EPDM dated 1 September 2019

AVK Nederland BV Burst pressure test Repico S 60,3 EPDM/ NBR dated 22 March 2021

AVK Nederland BV Burst pressure test Repico S 114,3/ 219,1 mm EPDM/ NBR dated 25 March 2021

AVK Nederland BV Tightness test Repico S 114,3 / 219,1 mm EPDM/ NBR. dated 25 March 2021

AVK Nederland BV Tightness test Repico S 60,3 mm EPDM/ NBR .dated 22 March 2021

AVK Nederland BV Vacuum test Repico S 114,3, 168,1 mm NBRdated 1 September 2019

Dr-ING. T.Baumer GmbH Flame resistance test report numbers IBB2436, IBB2438, IBB2430 for coupling with fire sleeve sizes DN32/ DN80/ DN200 dated 17 November 2020

Datasheet Number 747/008001-001, AVK REPIC® - BRANDWERENDE BESCHERMING, TYPE FRC

Drawing Number 74520 Rev.AC, Repico Assembly Repico- S

Drawing Number 74552 Rev.AC, Repico Assembly Repico- SG

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Terms of Validity:

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STANDARDS

ABS Rules:

2022 ABS Marine Vessel Rules: 1-1-4/7.7, 1-1-A3, 1-1-A4, 4-6-2/5.9, 4-6-2/9.6
2022 ABS Mobile Offshore Unit Rules: 1-1-4/9.7, 1-1-A2, 1-1-A3, 4-2-1/11.13

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

IACS UR P2 .11 Rev.4 : Mar 2016