

## Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

<b>Manufacturer</b>	<b>AVK Nederland B.V.</b>
<b>Address</b>	Schorsweg 1, Vaassen, 8171 ME, Netherlands
<b>Place of Production</b>	AVK Rewag B.V. Schorsweg 1, Vaassen, 8171 ME, Netherlands
<b>Type</b>	Mechanical Pipe Joints
<b>Description</b>	Axially non-restrained (type S) and half-restrained (type SG) pipe couplings for plain-ended pipes of carbon steel, stainless steel, Cu and CuNiFe materials.
<b>Trade Name</b>	REPICO® S Coupling & REPICO® SG Coupling
<b>Application</b>	Slip-on joint couplings for marine, offshore and industrial piping systems where uptake of pipe axial movements is required
<b>Specified Standard</b>	LR Rules and Regulations for Classification of Ships, July 2021 LR Rules and Regulations for Classification of Special Service Craft, July 2021 LR Rules and Regulations for Classification of Inland Waterway Ships, July 2021 IACS Unified Requirements P2 (1981, Rev. 2, Nov 2001) LR Type Approval System Procedure TA14 Version 04 (September 2020)



**Joseph Buttigieg**

Lead Technical Specialist to Lloyd's Register  
EMEA  
A member of the Lloyd's Register group

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

---

## Type Approval Certificate

### Ratings

See Appendix

### Additional Tests

1. The couplings are to be selected, fitted and disassembled in accordance with the manufacturer's technical manual. Piping is to be adequately adjusted, aligned and supported and the minimum thickness of the pipes is to be not less than that indicated in the manufacturer's technical manual or the applicable Rules and Regulations, whichever is the largest.
2. For marine piping systems, the couplings are acceptable in locations specified in the relevant Lloyds Register Rules and Regulations applicable to the ship or craft. For details, see Appendix.
3. For other systems not mentioned in the Rules and Regulations or for offshore or industrial systems the couplings will be considered on a case-by-case basis.
4. Couplings that are required to be fire-resistant are to be protected with a Repico® type FRC fire resistant cover.
5. Marking of the products to show: Manufacturer's name or trade mark, type designation, material combination, size, sealing material, bolt tightening torque and maximum working pressure or pressure Class.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document PRJ11100258903TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

**LLOYD'S REGISTER TYPE APPROVAL**  
**Issue by Rotterdam Technical Support Office**  
**Issued to: AVK Nederland B.V.**  
**For: REPICO® S Coupling & REPICO® SG Coupling**

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval System Procedure TA14 Version 03 (July 2017) and this Design Appraisal Document forms part of the Certificate.

**PRODUCT MATERIAL DETAILS**

Body:	Stainless steel 316
Slide plate:	Stainless steel 316
Fasteners:	Stainless steel 316
Grip segment and Support ring ( <i>REPICO® SG Coupling only</i> ) :	Stainless steel 301H
Sealing:	NBR or EPDM

**APPROVAL DOCUMENTATION**

Drawings:

Repico Assembly Repico S, Drawing No. 74520 Revision AD.....	dated 15 September 2021
Repico Assembly Repico SG, Drawing No. 74552 Revision AD .....	dated 15 September 2021
S-60 platine, Drawing No. 74700100100602 Revision AB.....	dated 15 September 2021
S-114 platine, Drawing No. 7470010101142 Revision AC.....	dated 15 September 2021
S-219 platine, Drawing No. 74700100102192 Revision AB .....	dated 15 September 2021

Technical documents:

Mounting Instructions Series 745, Document No. MI 745 – AA	
Mounting Instructions Series 747, Document No. MI 747 – AA	
C8_WI_Asemblage REPICO-S_AA .....	dated 19 July 2018
C8_WI_Asemblage REPICO-SG_AA .....	dated 19 July 2018

Others:

LR Form 'Production Quality Assessment', No. PRJ11100258903-2 .....	dated 1 October 2021
---	----------------------

**TEST REPORTS**

Burst pressure tests Repico SG 60,3 / 114,3 / 219,1 mm NBR ..... dated 1 September 2021  
Burst pressure test Repico SG 219,1 mm EPDM..... dated 25 March 2021  
Flame resistance test certificate and reports, Certificate No. PRJ1110025893-3 ..... dated 24 November 2020  
Tightness tests Repico SG 60,3 / 114,3 / 219,1 mm NBR ..... dated 1 September 2021  
Tightness test Repico SG 114,3 mm EPDM ..... dated 1 September 2021  
Vacuum test Repico S 114,3, 168,1 mm NBR..... dated 1 September 2019  
Vacuum tests Repico SG 60,3 / 114,3 mm EPDM..... dated 1 September 2019



**Joseph Buttigieg**  
Lead Technical Specialist to Lloyd's Register EMEA  
A member of the Lloyd's Register group



## Appendix

**Issued to: AVK Nederland B.V.**

**For: REPICO® S Coupling & REPICO® SG Coupling**

**TYPE APPROVAL CERTIFICATE No. LR2209823TA**

Pressure Ratings	ND (mm)	ND (inch)	Maximum working pressure (bar)
<b>Repico® S</b>	15 to 50	¾ to 2	16
	65 to 125	2½ to 5	14
	150	6	12
	200, 250	8, 10	8
	300, 350	12, 14	7
	400	16	6
<b>Repico® SG</b>	20 to 50	¾ to 2	16
	65 to 125	2½ to 5	14
	150	6	12
	200, 250	8, 10	8
	300	12, 14	7
Temperature Ratings	Sealing material	Min. temp. (°C)	Max. temp. (°C)
	NBR	-25	+80
	EPDM	-30	+110

Application range	
	<p>The couplings are acceptable in the following systems: -</p> <ol style="list-style-type: none"> <li>1. Flammable liquids (Flash point &lt; 60°C) Cargo oil lines and Crude oil washing lines, <i>see Note 4</i> Vent lines, <i>see Note 3</i></li> <li>2. Inert gas Water seal and Scrubber effluent lines Main lines, <i>see Notes 2 &amp; 4</i> Distribution lines, <i>see Note 4</i></li> <li>3. Flammable fluids (Flash point &gt; 60°C) Cargo oil lines, <i>see note 4</i> Fuel-, Lubricating-, Hydraulic- and Thermal Oil lines, <i>see Notes 2 &amp; 3</i></li> <li>4. Seawater Bilge lines in low or non-fire risk zones (outside machinery spaces) Ballast- and Cooling water lines, <i>see Note 1</i> Water filled fire-extinguishing systems, e.g. sprinkler systems, <i>see Note 3</i> Non-water filled fire-extinguishing systems, e.g. foam, drencher systems, <i>see Note 3 etc.</i>)</li> </ol>

<p><b>Limitations</b></p>	<p>Fire main (not permanently filled), <i>see</i> Note 3 Tank cleaning and non-essential systems</p> <p>5. Fresh water Cooling water systems and condensate return, <i>see</i> Note 1 Non-essentials systems</p> <p>6. Sanitary / Drains / Scuppers Deck drains (internal) <i>see</i> Note 5 Sanitary drains</p> <p>7. Sounding / Vent Water tanks / Sewage tanks / Dry spaces Oil tanks with fluid having a flash point &gt; 60°C, <i>see</i> Notes 2 &amp; 3</p> <p>8. Miscellaneous Service air (non-essential) Brine</p> <p>Note 1: In machinery spaces of the category A only approved fire-resistant types acceptable.</p> <p>Note 2: Not to be used in machinery spaces of the category A or accommodation spaces. Approved fire-resistant types may be used in other machinery spaces provided the couplings are installed in easily visible and accessible locations.</p> <p>Note 3: Only approved fire-resistant types except when fitted on open decks having little or no fire risk.</p> <p>Note 4: Only approved fire-resistant types when fitted in pump rooms and on open decks.</p> <p>Note 5: Only permitted above bulkhead deck of passenger ships and freeboard deck of cargo ships.</p> <p>The couplings are not acceptable in the following systems: -</p> <ol style="list-style-type: none"> <li>1. Class 1 piping</li> <li>2. CO<sub>2</sub> systems</li> <li>3. Starting and Control air systems</li> <li>4. Inside machinery spaces of category A or accommodation spaces for: -             <ol style="list-style-type: none"> <li>a. Pipe systems for flammable liquids including corresponding vent-overflow and sounding pipes</li> <li>b. Bilge lines</li> </ol> </li> <li>5. Steam pipe systems</li> <li>6. Bilge lines in other machinery spaces or high fire risk spaces</li> <li>7. Scuppers and discharge (overboard). Deck drains, except for pipes above the freeboard decks.</li> <li>8. Pipelines in cargo holds, tanks and other spaces which are not easily accessible</li> <li>9. Unstrained slip-on joints are to be used only in cases where compensation of lateral pipe deformation is necessary. Usage of these joints as the main</li> </ol>
---------------------------	--

---

	<p>means of pipe connection is not permitted</p> <ol style="list-style-type: none"><li>10. In cargo lines on board of IWW tankers for cargoes other than diesel oil, fuel oil, petroleum crude oil, petroleum distillates, lubricating oil and bilge water</li><li>11. Mechanical joints are not to be used in piping sections directly connected to the ship's side below the bulkhead deck of passenger ships and freeboard decks of cargo ships or tanks containing flammable fluids</li></ol>
--	---



**Joseph Buttigieg**

Lead Technical Specialist to Lloyd's Register EMEA

A member of the Lloyd's Register group

