

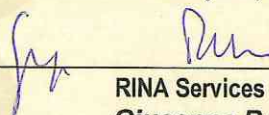


TYPE APPROVAL CERTIFICATE
No. MAC098415XG/002

This is to certify that the product identified below is in compliance with the regulations herewith specified.

<i>Description</i>	MECHANICAL JOINTS FOR PIPES
<i>Type</i>	UNI-FLEX (F) SLIP-ON JOINT - SLIP TYPE AXIALLY NOT RESTRAINED
<i>Applicant</i>	UNI-Coupling bv KERKDIJK-ZUID 11A 5492 HW SINT-OEDENRODE NETHERLANDS
<i>Manufacturer</i>	UNI-Coupling bv
<i>Place of manufacture</i>	KERKDIJK-ZUID 11A 5492 HW SINT-OEDENRODE NETHERLANDS
<i>Reference standards</i>	Part C, Chapter 1, Section 10 of RINA Rules
<i>Reference documents</i>	RINA Type approval system

Issued in **HAMBURG** on **July 27, 2015**. This Certificate is valid until **July 26, 2020**



RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure



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UNI-FLEX (F)

Reference documents

- Housing, Gasket, Trunions, Washers, Gripping & Bolts Assembly drawings
- Uni-Coupling Technical Manual issued on 24.9.2014
- Burst Test, Tightness Test, Vacuum Test & Fire Endurance Test Reports according to Final Test Plan dated 18.9.2014 as per IACS UR P2.11.5
- ISO-9001 & ISO14001 Quality Certificates
- Uni-coupling asbestos free material statement

Materials/Components

	W2		W5	
	DIN	AS	DIN	AS
Casing	1.4016	301	1.4571	316Ti
Lock Bars S-Type	1.0760	-	1.4571	316Ti
Lock Bars L-Type	1.4571	-	-	-
Bolts	1.0760	-	A4-80	316
Anchor Ring	1.4310 / 301			
Rubber Sleeve	NBR / EPDM			
Pipe Material	carbon steel, stainless steel, Cu, CuNiFe			

Flame protection consists of housing made of stainless steel sheet according to drawing no. 1-W5-VB-xx-xx & 2-W5-VB-xx-xx and intumescent material covered by type approved tape.

Technical Characteristics

Design Pressure	
Size Range OD (mm)	PN
from 21 up to 412	16
from 210 up to 412	10
from 263 up to 412	6

Design Temperature	
Rubber Material / Size Range OD (mm)	Temperature Range
NBR	-20°C up to 80°C
EPDM / 21 up to 172	-30°C up to 125°C
EPDM / 180 up to 406.4	-20°C up to 80°C

Fields of Application

The slip on joints slip type are acceptable for the applications/locations shown in the Table 16 of Part C, Chapter 1, Section 10 of RINA Rules also where fire resistant coupling type is required and with the limitations as per Paragraph 2.4.5 Part C, Chapter 1, Section 10 of RINA Rules.

Acceptance Conditions

The gasket material must be resistant to the fluid conveyed in the pipe and also to the surrounding fluid if the coupling is installed inside a tank.

The couplings are to be installed in locations where leakage would not create a hazard by way of damage to electrical systems or otherwise create a hazard to the vessel, equipment or personnel onboard.

The acceptance of the a.m. products on board ship classed with RINA is subject to the satisfactory outcome of testing as per RINA Rules applicable.

The installation on board is to be carried out in accordance with the Manufacturer's instructions.

HAMBURG 27/07/2015

