

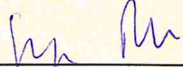


TYPE APPROVAL CERTIFICATE
No. MAC058316XG/001

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>	Plast-Grip L; Plast-Grip S SLIP-ON JOINT - GRIP TYPE AXIALLY 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 **April 12, 2016**. This Certificate is valid until **April 11, 2021**



RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure



TYPE APPROVAL CERTIFICATE

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Plast-Grip L

Plast-Grip S

Reference documents

- Housing, Gasket, Trunions, Washers, Gripping & Bolts Assembly drawings approved with HMMC6727.
- Uni-Coupling Technical Manual ed. 2016
- Burst Test, Tightness Test, Vacuum Test & Fire Endurance Test Reports according to Final Test Plan 7-8/3/2016 as per IACS UR P2.11.5
- ISO-9001 & ISO14001 Quality Certificates
- Uni-coupling asbestos free material statement

Materials/Components

	W5		W4		W2	
	DIN	AS	DIN	AS	DIN	AS
Casing	1.4571	316Ti	1.4301	304	1.4016	301
Lock Bars	1.4571	316Ti	1.4301	304	1.0760	1141
Bolts	A4-80	316Ti	A4-80	316Ti	A4-80	316Ti
Anchor Ring	1.4404 / 316L					
Rubber Sleeve	EPDM		NBR		VITON	

Flame protection consists of housing made of stainless steel sheet according to approved drawings and intumescent material covered by type approved tape.

Technical Characteristics

Design Pressure	
Size Range OD (mm)	PN
from 39 up to 165	10

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

Fields of Application

The slip on joints grip 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 April 12, 2016

