



CERTIFICATE NUMBER
EFFECTIVE DATE
EXPIRY DATE
ABS TECHNICAL OFFICE

21-2103498-PDA
24-Mar-2021
23-Mar-2026
Rotterdam Materials Eng

CERTIFICATE OF Product Design Assessment

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

UNI-COUPLING B.V.

located at

KERKDIJK- ZUID 11A, SINT-OEDENROEDE, Netherlands, 5492 HW

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: Pipe Coupling
Model: UNI-FLEX
Endorsements:
Tier: 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 23/Mar/2026 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

Nikolaos (Nikos Vrellos) Vrellos, 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)

UNI-COUPLING B.V.

KERKDIJK- ZUID 11A

SINT-OEDENROEDE

Netherlands 5492 HW

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Product: Pipe Coupling**Model:** UNI-FLEX**Endorsements:****Intended Service:**

Pipe couplings for approved applications, as per 4-6-2/Tables 10 and 11 of the Rules, in shipboard and offshore piping systems.

Description:

Axially non-restraint slip type pipe couplings with detachable sealing and for plain-ended pipes of Carbon steel, Stainless steel, Cu and CuNiFe. T-profile insert is used to prevent creepage on the pipe and optional electrical conductivity clips.

MATERIALS:

W5 (Standard)

Casing : Type 1.4571 / Grade 316 Ti; Type 1.4404 / Grade 316 L ; Type 1.4462 / Grade 318 LN; Type 1.4162 / Lean Duplex

Bolts : Type A4-80 / Grade 316 Ti

Bars : Type 1.4571 / Grade 316 Ti; Type 1.4404 / Grade 316 L ; Type 1.4462 / Grade 318 LN; Type 1.4162 / Lean Duplex

Anchoring rings : Type 1.4310 / Grade 301

Strip Insert (Option) : Type 1.4571 / Grade 316 Ti; Type 1.4404 / Grade 316 L; Type 1.4462 / Grade 318 LN; Type 1.4162 / Lean Duplex

W4 (Optional)

Casing : Type 1.4301 / Grade 304

Bolts : Type A4-80 / Grade 316 Ti

Bars : Type 1.4301 / Grade 304

Anchoring rings : Type 1.4310 / Grade 301

Strip Insert (Option) : Type 1.4571 / Grade 316 Ti

W2 (Optional)

Casing : Type 1.4016 / Grade 301

Bolts : Type A4-80 / Grade 316 Ti

Bars : Type 1.0760 / AISI 1141

Anchoring rings : Type 1.4310 / Grade 301

Strip Insert (Option) : Type 1.4571 / Grade 316 Ti

Sealing Ring:

EPDM and NBR elastomer.

Rating:

Range of diameter & Pressure: 20.5 mm OD up to 412 mm OD, 2.5 bar up to 16 bar.

Temperature Range EPDM : -30C up to +125C.

Temperature Range NBR : -20C up to +80C.

Medium EPDM: all qualities of water, waste water, air, solids and chemical products.

Medium NBR : water, gas, oil, fuel, and other hydrocarbons.

Please see attached table below for detailed approval range.

Service Restriction:

Unit Certification is not required for these products.

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Only EPDM/NBR sealing is approved for use on ABS classed, vessels, MODU or facilities.

Couplings are not to be used for joining plastic pipes.

Unrestrained 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 means of pipe connection is not permitted.

Slip-on joints are to be accessible for inspection.

The couplings are not acceptable in the following locations and as per 4-6-2/ Table 10:

1. Class 1 piping.
2. Co2, Starting and control air systems.
3. Pipe lines carrying toxic fluids.
4. Inside machinery spaces of category A or accommodation spaces for:
 - a. Main lines of inert gas systems.
 - b. Pipe systems for flammable liquids including corresponding vent and sounding pipes.
 - c. Bilge lines
5. Steam pipe systems, except for pipes on weather decks of oil and Chemical tankers with design pressure of 10 bar or less.
6. Bilge lines in other machinery spaces or high fire risk spaces.
7. Direct attachment to sea openings or tanks containing toxic and flammable fluids. Scuppers and discharge (overboard). Deck drains, except for pipes above the freeboard deck.
8. Pipe lines in cargo hold, tanks and other spaces which are not easily accessible.
9. In pump rooms and open decks for inert gas main and distribution lines.
10. Fire main, water spray and sprinkler systems.
11. Piping systems with impulse pressure load other than water hammer.
12. On board of IWW Tankers in cargo lines other than diesel oil, fuel oil, petroleum crude oil, petroleum distillates, lubricating oil and bilge water.

Comments:

The selection of the fittings and pipes for the corresponding application and the installation of mechanical pipe joints are to be in accordance with the manufacturer's assembly instructions. Where special tools and gauges are required for installation of the joints, these are to be specified and supplied as necessary by the manufacturer. These special tools are to be kept onboard.

The maximum pipe misalignment and maximum allowable axial movement are not to exceed the manufacturer's recommendations.

Piping must be effectively secured and supported to prevent the couplings from being subjected to end load pressures. Supports or hangers are not to be used to force alignment of piping at the point of connection.

Notes/Drawing/Documentation:

Drawing No. ABS PDA Certificate Uni-Coupling (UNI-FLEX), ABS Current Certificate

Drawing No. Certificate ISO 9001-2015_UNI-FLEX B, QA Certificate

Drawing No. Correspondence, PDA Application

Drawing No. Correspondence, PDA Online Application Form15-LD1409351-PDA

Drawing No. Correspondence, London Request Form

Drawing No. Declaration of ConformityUNI-FLEX, PDA Declaration

Drawing No. Digitaal EN 2020 3, Technical Manual ver. 3.30

Drawing No. PO 20200283_UNI-FLEX, Purchase Order

Drawing No. Correspondence, Client Confirmation PDA

Drawing No. Pipe CouplingsUNI_FLEX, Drawings

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Terms of Validity:

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STANDARDS

ABS Rules:

2021 Rules for Conditions of Classification, Part 1 - 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:
2021 Rules for Building and Classing Marine Vessels, 2-3-12, 2-4-4/17, 4-6, 4-6-2/5.9, 5.15 and 9.6

2021 Rules for Conditions of Classification, Part 1 - Offshore Units and Structures 1-1-4/9.7, 1-1-A2, 1-1-A3, which covers the following:

2021 Rules for Building and Classing Mobile Offshore Drilling Units, 4-2-2/5
2021 Guide for Classification of Drilling Systems, 4, 5/3, 6/7

National:

NA

International:

IACS P2.11 (corr.1 2007) with ISO 19921(first edition 2005-10-01) as fire endurance test.

Government:

NA

EUMED:

NA

OTHERS:

NA