



CERTIFICATE NUMBER
EFFECTIVE DATE
EXPIRY DATE
ABS TECHNICAL OFFICE

24-0041253-PDA
20-Aug-2024
19-Aug-2029
Hamburg Engineering Department

CERTIFICATE OF Product Design Assessment

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

SCHWER FITTINGS GMBH

located at

HANS-SCHWER-PLATZ 1, D-78588 Denkingen, Germany

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 Fittings
Model: u2-Lok
Endorsements:
Tier: 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 19/Aug/2029 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


Dimitrios Nikolakis, 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)

SCHWER FITTINGS GMBH

HAUPTSTRASSE-PLATZ 1

D-78588 DENKINGEN

Germany

Telephone: 0049 (0) 742498250

Fax: 0049 (0) 74249825900

Email: info@schwer.com

Web: www.schwer.com

Tier: 2 - PDA Issued

Product: Pipe Fittings**Model:** u2-Lok**Endorsements:****Intended Service:**

Marine & Offshore Applications-Tubing/Piping Systems.

Description:

The fittings are metallically sealed and consist of the fitting body, a back and a front ferrule and coupling nuts with silverplated thread. Standard materials are stainless steel 316 / 316L, for both metric and fractional tube sizes. Some fittings use soft sealings as follows:

ES – Elastomer Seal (Soft Seal) and Sealing: NBR, FKM, EPDM, PTFE, POM.

Rating:

Temperature rating: -30 to 100 deg.C

Pressure rating: see attachment.

Service Restriction:

1. 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.
2. For sea water piping systems in which sea water may be retained within the piping system in a stagnant or low flow condition (i.e., less than 1 m/sec), the following grades are not to be used for the piping or piping components, in accordance with 4-6-2/3.1.2 of Marine Vessel Rules 2024:
 - 304 and 304L stainless steels
 - 316 and 316L stainless steels with a molybdenum content of less than 2.5%
 - Other stainless grades when used are to be confirmed suitable for the application by the manufacturer.
3. Butt-welded Fittings are to be in accordance with 4-6-2/5.5.1 of Marine Vessel Rules 2024.

Comments:

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. Pipe Fittings are to be suitable to the intended piping system. Butt welded joints, where completed penetration at the root is achieved, may be used for all classes of piping. Degree of verification of sound root penetration is to be in accordance with 2-4-4/5 and 2-4-4/11 of Marine Vessel Rules 2024
3. All pipe fittings are to be suitable for the intended piping system and are to be certified in accordance with 4-6-1/1/1/1/1/1 of Marine Vessel Rules 2024.
4. Piping components are to bear 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 as per 4-6-1/7.1.4 of Marine Vessel Rules 2024.
5. Ferrous materials used in piping system operating at lower than -18°C are to have adequate notch toughness properties. (Refer to Section 4-6-2/3.1.7 of Marine Vessel Rules 2024)
6. The application and installation of the pipe fittings is to be in accordance with manufacturer's specifications and instructions and is to be approved in connection with the relevant piping systems.

Notes/Drawing/Documentation:

Drawing No. Um25-4L, Verschraubung, Revision: C, Pages:

Drawing No. Um6-4L, Verschraubung, Revision: C, Pages:

Drawing No. , Katalog-IT5_D-GB, Revision: , Pages:

Drawing No. Application Form, Application Form, Revision: -, Pages:

Drawing No. Em6-4L, Winkel-Verschraubung, Revision: E, Pages:

Drawing No. Tm25-4L, T-Verschraubung, Revision: C, Pages:

Drawing No. Em25-4L, Winkel-Verschraubung, Revision: C, Pages:

Drawing No. IMA-Testbericht, IMA Test Report u2, Revision: 0, Pages:

SCHWER FITTINGS GMBH

HAUPTSTRASSE-PLATZ 1

D-78588 DENKINGEN

Germany

Telephone: 0049 (0) 742498250

Fax: 0049 (0) 74249825900

Email: info@schwer.com

Web: www.schwer.com

Tier: 2 - PDA Issued

Drawing No. Tm6-4L, T-Verschraubung, Revision: D, Pages:

Terms of Validity:

This Product Design Assessment (PDA) Certificate remains valid until 19/Aug/2029 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.

STANDARDS**ABS Rules:**

2024 Rules for Conditions of Classification: 1-1-4/7.7, 1-1-A3 and A4, which covers the following:

2024 Rules for Building and Classing Marine Vessels: 4-6-1/7.1.2, 4-6-2/3.1, 4-6-2/5.5.1 & 5.5.4

2024 Rules for Conditions of Classification - Offshore Units and Structures: 1-1-4/9.7, 1-1-A2 and A3, which covers the following:

2024 Rules for Building and Classing Mobile Offshore Units: 4-2-2/3, 4-2-2/11

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA

24-0041253-PDA

Attached to 24-0041253-PDA

Company: SCHWER FITTINGS GMBH (406777)

Product: Pipe Fittings

Models: u2-Lok

Issuance Date: 20-August-2024

Expiry Date: 19-August -2029

Intended Service: Marine & Offshore Applications-Tubing/Piping Systems.

Ratings:

Working Pressure for stainless steel						
u2-Lok: Pipe connection of the coupling						
run	Tube OD	-54° C +20° C bar	psi	Tube OD	-54° C +20° C bar	psi
1	1/16"	810	11.745	2 mm	510	7.395
2	1/8"	750	10.875	3 mm	660	9.750
3	3/16"	710	10.295	4 mm	650	9.425
4	1/4"	710	10.295	6 mm	700	10.150
				8 mm	520	7.540
5	5/16"	540	7.830	10 mm	450	6.525
6	3/8"	440	6.380	12 mm	390	5.655
8	1/2"	440	6.380	14 mm	390	5.655
10	5/8"	400	5.800	15 mm	390	5.655
12	3/4"	380	5.510	16 mm	360	5.220
14	7/8"	270	3.915	18 mm	360	5.220
16	1"	270	3.915	20 mm	360	5.220
20	1 1/4"	320	4.640	22 mm	270	3.915
24	1 1/2"	320	4.640	25 mm	270	3.915
32	2"	230	3.335	28 mm	320	4.928
				30 mm	300	4.350
				32 mm	320	4.928
				38 mm	300	4.350