Certificate number: 71651/A1 BV
File number: ACM135/2756/2
Product code: 2130H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

WALTER STAUFFENBERG GmbH & CO. KG

Werdohl - GERMANY

for the type of product

MECHANICAL JOINTS - COMPRESSION COUPLINGS - SCREW TYPE

STAUFF Form EVO Tube Forming System

Requirements:
BUREAU VERITAS Rules for the Classification of Steel Ships
BUREAU VERITAS Rules for the Classification of Offshore Units
BUREAU VERITAS Rules for the Classification of Naval Ships
BUREAU VERITAS Rules for the Classification of Yachts

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 20 Jul 2027

For Bureau Veritas Marine & Offshore,
At BV HAMBURG, on 07 Jan 2026,
Adama Diene

This certificate was created electronically and is valid without signature

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

STAUFF Form EVO Tube Forming System

1.1 **Design:**
The system is based on standard parts and consists of the following four key components:

- **Fitting Body**
- **STAUFF Form EVO Sealing Ring**
- **Formed Tube End**
- **Union Nut**

The following fittings are included in this type approval:

- **Connecting parts: FI-FD, FI-M**
- **Male Stud Fittings: FI-GE-…,FI- WE-…, FI-TE-…, FI-LE…**
- **Tube Fittings / Unions: FI-G, FI-K, FI-T, FI-W**
- **Bulkhead Fittings: FI-GS, FI-WS, FI-ES**
- **Straight Female Stud Fittings: FI-GA-…**
- **Gauge Fittings: FI-MA-…-R, FI-EMAD-…-R, FI-EMA-…-R**
- **Straight Male Stud Fittings with 24° Taper/O-Ring: FI-EGED-…**
- **Straight Fittings with 24° Taper/O-Ring: FI-SNV, FI-REDSD**
- **Adjustable Elbows with 24° Taper / O-Ring: FI-EWD, FI-EVD**
- **Straight Male Stud Standpipe Fittings: FI-EGE-…**
- **Standpipe Fittings: FI-REDS, FI-EW, FI-ET, FI-EL**
- **Blanking Screw for Ports, Blanking Plugs: FI-VSV, FI-VS…, FI-VD, FI-VSK**

1.2 **Technical data:**

Series	Tube OD [mm]	Nominal pressure [bar]
L	6 - 10	500
L	12 - 18	400
L	22 - 42	250
S	6 - 10	800
S	12 - 16	630
S	20 - 38	420

Pressure reduction depending on the operating temperature to be according to the Manufacturer's catalogue

1.3 **Material Specifications:**

Fitting Body / Union Nut / Pipes	Unalloyed Carbon Steel / Stainless Steel
Seal ring / O-Ring	FKM / EPDM***** / NBR

***** available upon request

1.4 **Temperature range for the used materials:**

Material	Min. allowable temperature	Max. allowable temperature
Unalloyed Carbon Steel	-20 °C	+250 °C
Stainless Steel	-55 °C	+400 °C
FKM	-25 °C	+200 °C
NBR	-35 °C	+100 °C

2. DOCUMENTS AND DRAWINGS

According to the Manufacturer's catalogue: **Tube Connectors Catalogue 2 * Edition 02/2025**.

3. TEST REPORTS

3.1 Tests carried out at the Manufacturer's premises, Development Reports **V0323** & **V0324** dated 24/06/2021:
- Combined Pressure pulsation and Vibration tests
- Repeated assembly tests
- Burst pressure test
- Pull-out test
- Vacuum test
- Tightness test

3.2 Fire endurance tests carried out at LAPI LABORATORIO PRENVENZIONE INCENDI S.p.A. (PRATO/ITALY), Test Reports No. **258/21 (287/21/AC), 259/21 (288/21/AC), 260/21 (289/21/AC), 261/21 (290/21/AC), 262/21 (291/21/AC)** & **263/21 (292/21/AC)**.

4. APPLICATION / LIMITATION

4.1 STAUFF Form EVO tube Forming System may be used for the following services on board:

Flammable fluids (flash point ≤ 60°C)	
Cargo oil lines	*(4)*
Crude oil washing lines	*(4)*
Vent lines	*(3)*

Inert gas	
Water seal effluent lines	
Scrubber effluent lines	
Main lines	*(4)*
Distribution lines	*(4)*

Flammable fluids (flash point > 60°C)	
Cargo oil lines	*(4)*
Fuel oil lines	*(3)*
Lubricating oil lines	*(3)*
Hydraulic oil	*(3)*
Thermal oil	*(3)*

Sea water	
Bilge lines	*(1)*
Water filled fire extinguishing systems, e.g. sprinkler systems	*(3)*
Non water filled fire extinguishing systems, e.g. foam, drencher systems	*(3)*
Fire main (not permanently filled)	*(3)*
Ballast systems	*(1)*
Cooling water system	*(1)*
Tank cleaning services	
Non-essential systems	

Fresh water	
Cooling water system	*(1)*
Condensate return	*(1)*
Non-essential systems	

Sanitary/Drains/Scuppers	
Deck drains (internal)	*(6)*
Sanitary drains	
Scuppers and discharge (overboard)	

Sounding/Vent	
Water tanks/Dry spaces	
Oil tanks (flash point > 60°C)	*(3)*

Miscellaneous	
Starting/Control air	*(1)*
Service air (non-essential)	
Brine	
CO2 system	*(1)*
Steam	

Footnotes:
(1): Inside machinery spaces of category A - only approved fire resistant types
(3): Approved fire resistant types except in cases where such mechanical joints are installed on exposed open decks, as defined in SOLAS II-2/Reg. 9.2.3.3.2.2(10) and not used for fuel oil lines.
(4): Only in pump rooms and open decks – only approved fire resistant types.
(6): Only above bulkhead deck of passenger ships and freeboard deck of cargo ships.

4.2 Application and installation of the tube forming system are to be in accordance with the manufacturer's specifications and instructions, and BUREAU VERITAS Rules requirements.

4.3 The Tube Forming System is to be at any time accessible.

4.4 Tube fittings with tapered threads end connections are not to be used for liquid fuel or oil circuits in neither engine rooms nor any place containing an ignition source unless otherwise suitably screened at the Society's Surveyor satisfaction.

4.5 The used materials are to be suitable for the intended service.

4.6 The wall thickness and the material of the used tubes are to be in accordance with the BUREAU VERITAS Rules.

4.7 For the Bulkhead Fittings, the requirements given in BUREAU VERITAS Rules have to be complied with.

4.8 When soft seals are used for Bulkhead unions, it must be ensured that water, oil or fire cannot penetrate through the watertight bulkheads or decks.

4.9 Threaded type may not be used on watertight bulkheads.

5. PRODUCTION SURVEY REQUIREMENTS

5.1 The Tube Forming Systems are to be supplied by the manufacturer in compliance with the type described in this certificate.

5.2 This type of product is within the category HBV of BUREAU VERITAS Rule Note NR320.

5.3 **Walter Stauffenberg GmbH & Co KG** has to make the necessary arrangements to have its works recognized by BUREAU VERITAS in compliance with the requirements of NR320 for HBV products.

5.4 For information, **Walter Stauffenberg GmbH & Co KG** has declared to BUREAU VERITAS the following production sites:
Walter Stauffenberg GmbH & Co KG
Im Ehrenfeld 4
58791 Werdohl
GERMANY

6. MARKING OF PRODUCT

Each Tube Forming System is to be clearly identified according to the manufacturer’s instructions:
- Manufacturer’s name or logo
- Type designation
- Size

7. OTHERS

7.1 It is **Walter Stauffenberg GmbH & Co KG**'s responsibility to inform shipbuilders, ship owners or their subcontractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

7.2 This certificate supersedes the Type Approval Certificate N° 71651/A0 BV issued on 20/07/2022 by the Society.

***** END OF CERTIFICATE *****