



Marine & Offshore
Division

Certificate number: 42177/A0 BV

File number: ACM 135/2757/1

Product code: 2170H

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

FRABO S.p.A.

Bordolano (CR) - ITALY

for the type of product

PIPE COUPLING WITH O-RING SEAL

Frabopress H2O Securfrabo copper/bronze

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 Yachts

This certificate is issued to attest that BUREAU VERITAS 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: 12 Apr 2021

For BUREAU VERITAS,

At BV VENEZIA, on 12 Apr 2016,

Sandro BRUSEGAN



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. 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 Division 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 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 electronic version is available at: <http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=qdhdpfxsdd>

BV Mod. Ad.E 530 October 2014

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION

Frabopress H2O Securfrabo copper/bronze

1.1 Design (press type)

Pipe diameter (mm)	12	15	18	22	28	35	42	54
Minimum thickness (mm)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5

Size range (mm)	12 up to 54
Design pressure * (bar)	16

* Depending on applications and manufacturer's instructions.

1.2 Temperature range (°C) depending on sealing material according to manufacturer's recommendation

Seal material	Temperature range (°C)
EPDM	-20 up to 120
HNBR	-20 up to 95
FKM	0 up to 160

1.3 Materials

Part Name	Material
Pipes & press fittings	High purity copper cu-DHP, material CW024A according to EN 1412 High purity cast bronze
O-ring seal	EPDM, FKM or HNBR

When other choices of materials are used per manufacturer's recommendations, the BV agreement is to be obtained.

2. DOCUMENTS AND DRAWINGS

- Technical sheet Frabo N° EN-TECHSHEET-FRABOPRESSH2O SECUR-00/14 dated 2014
- Technical data sheet N° EN-ST-FRABOPRESS H2O SECURFRABO-01/12 dated 2012
- Installation instructions Frabopress H2O Securfrabo N° QSI-EN-DE-FRABOPRESSH2OSECURFRABO-00/2012 dated 2012
- DVGW type examination certificate N° DW-8511CL0458 dated 20/12/2010

No departure from the above documents shall be made without the prior consent of the Society. The manufacturer must inform the Society of any modification or changes to these documents and drawings.

3. TEST REPORTS

- Test report N° CA 11-013 dated 22/09/2001 by CSTB (Centre Scientifique et Technique du Bâtiment): pressure resistance test, burst test, resistance to alternate pressure stress
- Pipe diameter 15 mm, test report N° TR_1104543_001_002_003_004_005_006_007 dated 26/01/2016 witnessed by a Society's Surveyor at TTR Institute: vacuum test, tightness test, burst test, pull out test, vibration test and repeated assembly test
- Pipe diameter 28 mm, test report N° TR_1104544_001_002_003_004_005_006_007 dated 03/02/2016 witnessed by a Society's Surveyor at TTR Institute: vacuum test, tightness test, burst test, pull out test, vibration test and repeated assembly test
- Pipe diameter 54 mm, test report N° TR_1104545_001_002_003_004_005_006_007 dated 26/01/2016 witnessed by a Society's Surveyor at TTR Institute: vacuum test, tightness test, burst test, pull out test, vibration test and repeated assembly test
- Fire resistance test according to ISO 19921:2005 and ISO 19922:2005 only for oil services (only FKM seal material tested)
- Pipe diameter 15 mm with FKM seal, fire resistance test according to ISO 19921:2005 and ISO 19922:2005 by LAPI S.p.A Laboratory report N° 034.2IS0182/16 dated 04/02/2016
- Pipe diameter 28 mm with FKM seal, fire resistance test according to ISO 19921:2005 and ISO 19922:2005 by LAPI S.p.A Laboratory report N° 035.2IS0182/16 dated 04/02/2016
- Pipe diameter 54 mm with FKM seal, fire resistance test according to ISO 19921:2005 and ISO 19922:2005 by LAPI S.p.A Laboratory report N° 036.2IS0182/16 dated 04/02/2016

4. APPLICATION / LIMITATION

4.1 May be used for class III tubing/piping systems for the following marine and offshore applications:

- **Flammable fluids (Flash point > 60°C):** Fuel oil (1), hydraulic oil (1), thermal oil (1)
- **Fresh Water :** Heating, cooling water system, wet sprinkler systems, sanitary system and non-essential system
- **Miscellaneous:** Heating system and compressed air

Footnote:

1- Not inside machinery spaces of category A or accommodation spaces. May be accepted in other machinery spaces provided the joints are located in easily visible and accessible positions

4.2 The seal material is to be compatible with the fluid conveyed and the maximum working temperature in accordance with the manufacturer's instructions.

4.3 The wall thickness and material of the tubes are to be in accordance with the BUREAU VERITAS Rules and Regulations stated on the front page of this certificate.

4.4 In all cases, the associated pipes are to be suitably supported and anchored. The joints are to be at any time accessible, excepting inside tanks where permitted by the BUREAU VERITAS Rules.

4.5 Couplings and O-ring seals are to be assembled with pipes in accordance with the assembly instructions given by the manufacturer.

4.6 The bulkhead fittings are not approved through watertight or fire bulkheads.

5. PRODUCTION SURVEY REQUIREMENTS

5.1 The products are to be supplied by **FRABO S.p.A** in compliance with the type described in this certificate and in compliance with the requirements stated on the front page of this certificate. This type of product is within the category HBV of BUREAU VERITAS Rule Note NR 320.

5.2 **FRABO S.p.A** has to make the necessary arrangements to have its works recognized by BUREAU VERITAS in compliance with the requirements of NR 320 for HBV products.

5.3 No BUREAU VERITAS Certificate is required.

Place of production

FRABO S.p.A
Via Circonvallazione 7
25027 Bordolano (CR)
ITALY

6. MARKING OF PRODUCT

The product shall be marked with at least:

- Manufacturer's name or logo
- Type designation
- Size

7. OTHERS

This approval is given on the understanding that the manufacturer will accept full responsibility for informing shipbuilders or their sub-contractors of the proper methods of fitting and general maintenance of the products and of the conditions of this approval.

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