



Marine &amp; Offshore

Certificate number: 57548/A0 BV

File number: ACM 135/2796/01

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*

**RASTELLI RACCORDI COMMERCIALE SRL**

Villanterio (PV) - ITALY

*for the type of product*

**MECHANICAL JOINTS - COMPRESSION COUPLINGS - SCREW TYPE**

Couplings Series L & S (made of Steel & Stainless Steel)

**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

*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: 31 Jul 2024**

**For Bureau Veritas Marine & Offshore,**

At BV VENEZIA, on 31 Jul 2019,

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 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](http://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.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION

#### **Couplings Series L & S (made of Steel and Stainless Steel)**

#### **1.1 Design (compression coupling, bite type)**

- Metallic pipe couplings L for medium pressures and S for high pressures according to DIN 2353/DIN EN ISO 8434-1
- Couplings to ISO 8434-1/DIN 2353 comprise a body, a cutting ring and a tightening nut
- Fittings : equal elbow, equal tees, straight reducing, straight, etc ...

#### **1.2 Technical data**

##### **- Steel and Stainless Steel**

Size (mm)	6 to 42
Max. Working Pressure (bar)	630
Temperature range (°C)	-40 / 120 (carbon steel) -55 / 400 (stainless steel)

Series	Pipe OD (mm)	Nominal Pressure (bar)
L	6, 8, 10, 12, 15, 18	315
	22, 28, 35, 42	160
S	6, 8, 10, 12, 14	630
	16, 20, 25, 30	400
	38	315

Pressure-Temperature rating will comply with the manufacturer's recommendation

Temperature (°C)	20	50	100	200	300	400
Factor	1	0,96	0,90	0,80	0,70	0,65

#### **1.3 Temperature range depending on sealing material**

Material	Temperature Range
NBR	-35°C to 100°C
FPM	-25°C to 200°C

#### **1.4 Raw Material**

Part	Material
Fittings	11SMnPb37 (1.0737) / 9SMn28 (1.0715) DIN 3859 Stainless Steel AISI 316L, AISI 316Ti or 1.4571
O-ring	NBR / FPM

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

### 2. DOCUMENTS AND DRAWINGS

- Manufacturer's catalogue & Assembly Instructions N° 2B7 dated 03/2018
- Document N° 6086 A dated 07/05/2005
- Document N° 6086 A1 dated 30/11/1994
- Documents N° 6006 A2 dated 22/05/2018 & N° 3278-A dated 26/07/2005

### 3. TEST REPORTS

- Burst test reports N° OC2-1011-AI dated 20/09/2013 & N° OC2-1011/BI dated 30/11/2017
- Test report N° 120002588 dated 07/04/2008
- Fire resistance test report N° 2013CS03495/1, N° 2013CS03495/2, N° 2013CS03495/5, N° 2013CS03495/6, N° 2013CS03495/7, N° 2013CS03495/8, N° 2013CS03495/9, N° 2013CS03495/10 dated 12 & 17/02/2014.
- Repeated assembly test report N° OC2-1011-I dated 22/11/2007
- Tightness test report N° 315934-I dated 13/05/2014

**4. APPLICATION / LIMITATION**

4.1 - May be used on board for services of Class I, II & III:

- **Flammable fluids (flash point  $\leq 60^{\circ}\text{C}$ )** - cargo oil (2), crude oil washing (2), vent lines
- **Inert gas** - water seal/scrubber effluent, main lines (1+2), distributions lines (2)
- **Flammable fluids (flash point  $> 60^{\circ}\text{C}$ )** - cargo oil (2), fuel oil (1), lubricating oil (1), hydraulic oil (1), thermal oil lines (1)
- **Sea water** - bilge/ballast/cooling water, water/non-water filled fire extinguishing systems, fire main, tank cleaning/non-essential lines
- **Fresh water** - cooling water, condensate return, non-essential lines
- **Deck drains (internal)** (3), sanitary drains, scuppers and discharge (overboard)
- **Sounding and venting** - water tanks/dry spaces, oil tanks (flash point  $> 60^{\circ}\text{C}$ ) (1)
- **Miscellaneous** - service air (non-essential), brine, steam, starting/control air, CO2 system

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

(2)- *Only in pump rooms and open decks*

(3)- *Only above bulkhead deck of passenger ships and freeboard deck of cargo ships.*

4.2 - The bulkhead fittings are not approved through watertight or fire bulkheads. For bulkhead unions, the requirements given in the Society Rules Pt C, Ch 1, Sec 10, [5.3] have to be complied with. 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.

4.3 - Taper threaded end connections are not to be used for liquid fuel or oil circuits in engine rooms nor any place containing an ignition source unless otherwise suitably screened at the Society's Surveyor satisfaction.

4.4 - The sealing material is to be compatible with the fluid to be conveyed and the maximum working temperature.

4.5 - 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.

4.6 - The wall thickness and the material of the tubes are to be in accordance with the applicable Society Rules.

4.7 - Assembly instructions given by the manufacturer are to be complied with.

**5. PRODUCTION SURVEY REQUIREMENTS**

5.1 - The products are to be supplied by **RASTELLI RACCORDI COMMERCIALE SRL** 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 and as such does not require a BV product certificate.

5.3 - **RASTELLI RACCORDI COMMERCIALE SRL** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - For information, **RASTELLI RACCORDI COMMERCIALE SRL** has declared to Bureau Veritas the following production site:

**RASTELLI RACCORDI COMMERCIALE SRL**  
**Via Circonvallazione, 26**  
**27019 Villanterio (PV)**  
**ITALY**

**6. MARKING OF PRODUCT**

Each coupling is to be marked as far as practicable with:

- Manufacturer's name or logo
- Type designation
- Pipe size
- Maximum working pressure

**7. OTHERS**

It is **RASTELLI RACCORDI COMMERCIALE SRL's** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

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