



TYPE APPROVAL CERTIFICATE
No. MAC201921CS/002

This is to certify that the product identified below is in compliance with the regulations herewith specified.

<i>Description</i>	MECHANICAL JOINTS FOR PIPES
<i>Type</i>	Cutting ring fittings B7 DIN 2353
<i>Applicant</i>	CAST SPA STRADA BRANDIZZO 404 408 BIS 10088 VOLPIANO (TO)
<i>Manufacturer</i>	CAST SPA
<i>Place of manufacture</i>	STRADA BRANDIZZO 404 408 BIS 10088 VOLPIANO (TO)
<i>Reference standards</i>	Part C, Chapter 1, Section 10 of RINA Rules

Issued in **Genoa** *on* **December 16, 2021.** *This Certificate is valid until* **November 18, 2026**

RINA Services S.p.A.
Marco Dardano

This certificate consists of this page and 1 enclosure

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Reference documents

General Catalogue CAST ed. 1/C June 2016 and catalogue B7 Cast ed. 1 september 2021.
Approval letter PPVT/2021/00845/CRLVA dated 05/10/2021.
Test Report archived with transmittal letter PPVT/2021/01013/CRLVA

Materials/Component

Check the mentioned above catalogue as for product type.

B7 cutting ring with Industrial patent pending at the deliberating bodies.

-carbon steel tube: calibrated, cold drawn seamless, normalised with inert gas, made of material E235 according to EN 10305-4

-stainless steel tube: calibrated and polished, cold drawn seamless tubes 1.4571 as per UNI EN 10216-5 table 6 with dimensional tolerance as per EN10305-1

CARBON STEEL CAST MATERIALS TABLE

CUTTING RING B7

Type of steel	Standard
11SMnPb37 1.0737	UNI EN ISO 683-4
11SMn37 1.0736	UNI EN ISO 683-4
11SMnPb30 1.0718	UNI EN ISO 683-4
11SMn30 1.0715	UNI EN ISO 683-4

NUTS AND BODIES

Type of steel	Standard
11SMnPb37 1.0737	UNI EN ISO 683-4
11SMn37 1.0736	UNI EN ISO 683-4
11SMnPb30 1.0718	UNI EN ISO 683-4
11SMn30 1.0715	UNI EN ISO 683-4
28SMnPb28(PR60)	-
36SMnPb14 1.0765	UNI UNI EN ISO 683-4
C35 1.0501	UNI EN ISO 683-1
C45 1.0503	UNI EN ISO 683-1
C4C 1.0303	UNI EN 10263-2
C10C 1.0214	UNI EN 10263-2

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STAINLESS STEEL CAST MATERIALS TABLE
CUTTING RING B7

Type of steel	Standard
X6CrNiMoTi17-12-2 1.4571 (AISI 316Ti)	UNI EN 10088-3
X2CrNiMo17-12-2 1.4404 (AISI 316L)	UNI EN 10088-3
X5CrNiMo17-12-2 1.4401 (AISI 316)	UNI EN 10088-3
X8CrNiS18-9 1.4305 (AISI 303)	UNI EN 10088-3

NUTS AND BODIES

Type of steel	Standard
X6CrNiMoTi17-12-2 1.4571 (AISI 316Ti)	UNI EN 10088-3
X2CrNiMo17-12-2 1.4404 (AISI 316L)	UNI EN 10088-3
X5CrNiMo17-12-2 1.4401 (AISI 316)	UNI EN 10088-3
X5CrNi18-10 1.4301 (AISI 304)	UNI EN 10088-3
X2CrNi18-9 1.4307 (AISI 304L)	UNI EN 10088-3

Performed test

Multi-Cutting ring B7 fittings: leakage test, vibration and pressure pulsation test, burst pressure test, pull out test, repeated assembly/disassembly test, fire endurance test with and without fluids.

Field of application

- Field of application in accordance with Pt. C, Cap. 1, Sec. 10, Tab. 16 of RINA Rules;
- Arrangements in accordance with Pt. C, Cap. 1, Sec. 10, Par. 2.4.5 of RINA Rules;
- Fire endurance uses (with and without fluids within tubes).

Technical Characteristics

Temperature field:

Carbon steel from **-40°C** to **+120°C** as per ISO 8434

Stainless steel from **-60°C** to **+200°C** as per ISO 8434

The working pressure reduction on stainless steel 1.4571 fittings must be applied taking into account the working temperature as per ISO 8434:

≥ 50	°C	=	-4,0% of pressure
≥ 100	°C	=	-11% of pressure
≥ 200	°C	=	-20% of pressure

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Pressure field

Carbon steel			Stainless steel		
	External diameter of the pipe (mm)	Maximum working pressure (bar)		External diameter of the pipe (mm)	Maximum working pressure (bar)
L (Light)	6	500	L (Light)	6	315
	8			8	
	10			10	
	12	400		12	
	15			15	
	18			18	
	22	250		22	160
	28			28	
	35			35	
	42			42	
S (Heavy)	6	800	S (Heavy)	6	630
	8			8	
	10			10	
	12	630		12	
	14			14	
	16			16	
	20	420		20	400
	25			25	
	30			30	
	38			38	

Remarks

This certificate covers the joints with B7 fittings only.
The installation must be carried out in accordance with manufacturer instructions.
Final acceptance of mentioned above items to be installed on board ships classed with RINA, is subject to satisfactory outcome of testing as per RINA Rules.

Products must be marked with:

- Manufacture's name or trademark
- Fitting type
- Operating condition
- Additional labels by the manufacturer

Genoa December 16, 2021

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