

# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

CERTIFICATE NO. P-14594

This is to certify that the Pipe Couplings, Flared or Welded Nipple Type

> with type designation(s) SAE J 514 37° flared pipe fittings

> > Manufactured by

CAST S.P.A. Volpiano TO, Italy

is found to comply with

Offshore Standard DNV-OS-D101, Marine and Machinery Systems and Equipment Det Norske Veritas' Rules for Classification of Ships Det Norske Veritas' Standards for Certification 2.9 No. 5-792.20

Application

The couplings may be used in the following systems: Hydraulic, Fuel, Lubrication oil, Compressed air, Steam and Condensate, Fresh and Sea water and Marsh gas systems.

> Temperature range: -60 °C to 200 °C (see cert.) Max. working press.: Depending on size, see cert.

6 to 38 mm. Sizes:

	Head of Section	
	Marianne Spæren Marveng	
Approval Engineer: Mohsen Mohebbi		
DNV local station: <b>Milan</b>	for <b>Det Norske Veritas AS</b>	
Issued at Høvik on 2013-09-24		
This Certificate is valid until 2017-12-31.		

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.

The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.

DET NORSKE VERITAS AS, Veritasveien 1, NO-1322 Høvik, Norway, Tel.: +47 67 57 99 00, Org.No. NO 945 748 931 MVA. Form No.: TA 1411a Issue: December 2012

Certificate No.: P-14594 File No.: 792.22

Job Id.: 262.1-008164-2

### **Product description**

SAE J 514 37° flared pipe fittings with or without o-ring seal.

Part	Carbon steel coupling Standard		Stainless steel coupling Standard	
	UNI 4838	EN 10087	DIN 17440 or EN 1088	
Ring/ Sleeve	CF9SMnPb28 / 36 or	11SMnPb30 / 37 or	X6CrNiMoTi17-12-2 (1.4571) or	
	CF9SMn28 / 36	11SMn30 / 37	X5CrNiMo17-12-2 (1.4401)	
Nut	CF9SMnPb28 / 36 or	11SMnPb30 / 37 or	X6CrNiMoTi17-12-2 (1.4571) or	
	CF9SMn28 / 36	11SMn30 / 37	X2CrNiMo17-12-2 (1.4404)	
Straight and forged body	CF9SMnPb28 / 36 or	11SMnPb30 / 37 or	X6CrNiMoTi17-12-2 (1.4571) or	
	CF9SMn28 / 36	11SMn30 / 37	X5CrNiMo17-12-2 (1.4401)	

Production plant located at Casalgrasso CN, Italy.

#### **Application/Limitation**

Maximum working pressure (MWP):

Size	Maximum working pressure [bar]		
[mm]	Carbon steel	Stainless steel	
6	350	350	
8	350	350	
10	350	350	
12	350	350	
14, 15, 16	350	350	
18, 20	350	350	
25	290	290	
30, 32	240	240	
38	240	240	

Couplings made of carbon steel are not to be used at temperatures below -10°C unless the material is normalised.

The wall thickness and the material of the tubes are to be in accordance with the current Rules of Det Norske Veritas.

The approval is only valid when the couplings are assembled with tubing of correct temper and tolerances as recommended by the manufacturer.

These couplings should not be used on tubes in cold fabricated (hard temper) conditions.

Maximum working temperature for couplings of the following materials:

Carbon steel  $-20~^{\circ}\text{C}$  to 120  $^{\circ}\text{C}$  Stainless steel  $-60~^{\circ}\text{C}$  to 200  $^{\circ}\text{C}$ 

For couplings made of stainless steel at elevated temperatures, the maximum working pressure has to be reduced with the following factors:

Temperature	≥ 50 °C	≥ 100 °C	≥ 200 °C
Reduction factor in % of the MWP	- 4	-11	-20

In addition to the limitations given by the coupling materials, the maximum working temperatures for couplings with o-rings of the materials:

NBR Nitrile rubber -35 °C to 90 °C Viton -25 °C to 170 °C

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### Type Approval documentation

- Drawings Nos: 200303.3.F, 200309.3.F.
- Relevant pages from the Manufacturer's catalogue SAE.
- Manufacturer's assembly and burst test report V.d.P.n°97/04 dated 30.03.2005.
- IMA Dresden test report C97/04 dated 16.02.2005 (containing test result from leakage test, combined impulse/vibration test and fire test)
- IMA Dresden supplement 1 of test report C97/04
- IMA Dresden supplement 2 of test report C97/04
- Burst test report V.d.P.n°12/09 dated 2009-07-02

#### Tests carried out

Repeated assembly test, leakage test, burst, vibration-impulse test and fire test.

#### Marking of product

For traceability to this type approval, each coupling is at least to be marked with:

- Manufacturer's trade mark
- Type designation
- Size

#### **Certificate Retention Survey**

For retention of the Type Approval, a DNV Surveyor shall perform a survey - every second year and before the expiry date of this certificate - to verify that the conditions for the type approval are complied with. The Surveyor shall witness burst testing of samples of couplings selected at random from stock or from the running production as a part of this survey.

#### **END OF CERTIFICATE**

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