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.**
Sizes:	**6 to 38 mm.**

This Certificate is valid until **2017-12-31**.

Issued at **Høvik** on **2013-09-24**

DNV local station: **Milan**

Approval Engineer: **Mohsen Mohebbi**

for **Det Norske Veritas AS**

Digitally Signed By: Marveng, Marianne Spæren
Location: DNV Høvik, Norway
Signing Date: 2013-09-25

Marianne Spæren Marveng
Head of Section

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 CF9SMn28 / 36	11SMnPb30 / 37 or 11SMn30 / 37	X6CrNiMoTi17-12-2 (1.4571) or X5CrNiMo17-12-2 (1.4401)
Nut	CF9SMnPb28 / 36 or CF9SMn28 / 36	11SMnPb30 / 37 or 11SMn30 / 37	X6CrNiMoTi17-12-2 (1.4571) or X2CrNiMo17-12-2 (1.4404)
Straight and forged body	CF9SMnPb28 / 36 or CF9SMn28 / 36	11SMnPb30 / 37 or 11SMn30 / 37	X6CrNiMoTi17-12-2 (1.4571) or X5CrNiMo17-12-2 (1.4401)

Production plant located at Casalgrasso CN, Italy.

Application/Limitation

Maximum working pressure (MWP):

Size [mm]	Maximum working pressure [bar]	
	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 °C to 120 °C
Stainless steel	-60 °C to 200 °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

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