



Project:

Client: **STARLINE S.p.A.**
S. Paolo d'Argon (Bergamo)

Office: **Milan**

Clients Order Number:

Date: **06 August 2007**

Order Status: **Complete**

Inspection Dates

First: **29 June 2007**

Final: **31 July 2007**

This certificate is issued to **STARLINE S.p.A. S. Paolo d'Argon Bergamo**. The undersigned Surveyor to this Society did attend at the work of Messrs Starline S.p.A. for the purpose of witnessing the **FIRE TEST** in accordance with **EN ISO 10497:2004** and **ANSI/API 607 Fifth Edition, June 2005** carried out on the following valve selected at random from current production.

DN 50 (NPS 2") CLASS 600 Lbs-STARLINE FORGED STEEL BALL VALVE, THREE PIECES BOLTED CONSTRUCTION TYPE "FLOATING ENCAPSULATED SEAT"-FIGURE N. 116-PGH-G ACCORDING TO DWG. FT 785/07E1 MATERIAL F316/F316

The test conducted on the valve previously subject to hydraulic and air test was as follows:

-The valve, in the closed position, filled with water under pressure, was put in a box and exposed to flames with an environmental temperature in the region of the valve of 750 Deg. C to 1000 Deg. C for a period of 30 minutes minimum and established the leakage through the valve and to atmosphere during this period. The temperature was checked by means of calorimeter cubes and flame environment thermocouples and recorded every 30 seconds, while leakage were determined using containers collecting the water leaked during burn period. After cool-down to 100 Deg. C the valve was hydrostatically tested to the low test pressure (applicable only for PN100-CLASS 600 and lower), subsequently operated and tested at the appropriate high test pressure in the fully open position, to assess the pressure containing capability of the valve shell and seats.

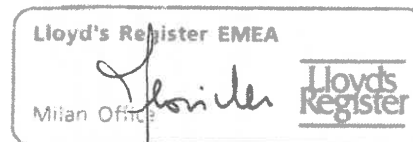
All the following values were determined and recorded together with temperature times and pressures as shown on manufacturer's fire test sheet record No. FT 785/07B1 and fire test chart record No. FT 785/07C1 detailing the following points:

5.1 Through-seat leakage (high test pressure) during burn period	Satisfactory
5.2 External leakage (high test pressure) during burn / cool down periods	Satisfactory
5.3 Through-set leakage (low test pressure) after cool-down	Satisfactory
5.4 Operability under high pressure from closed to open position	Satisfactory
5.5 External leakage in fully open position at high pressure	Satisfactory

The valve was subject to visual examination with satisfactory results and subsequently disassembled in order to verify that valve components comply with the drawing and part list supplied by the manufacturer, while seat rings were found completely destroyed. The Manufacturer's documentation No. FT 785/07A1 herewith attached was satisfactorily checked and signed.

The above is considered in accordance with the above mentioned specifications requirements and therefore the valve has satisfactorily passed the fire test.

gf



Giuseppe FLORIELLO
Surveyor to Lloyd's Register EMEA

A member of the Lloyd's Register Group

BALL VALVE TESTED : "FLOATING ENCAP. SEAT" No. 1

Material : F316 / F316 Size : 2" Class : 600 Lbs Our Fig.n° : 116-PGH-G

VALVE CONSTRUCTION

Forged Steel Ball Valves Three Pieces Bolted Construction (Type "ENCAP.SEAT" No. 1)

Floating Ball, Anti - Blow - Out Proof Stem Design, Antistatic Design.

Designed in Conformity to Last Edition of :

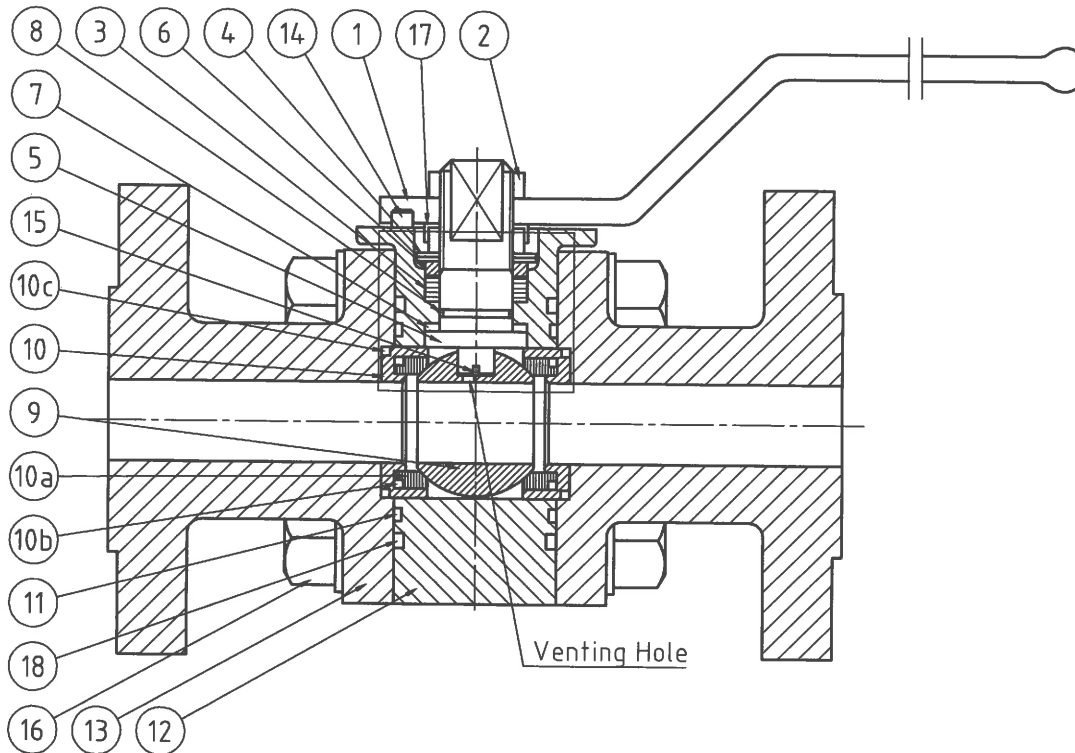
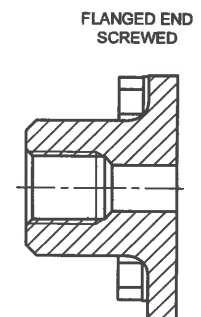
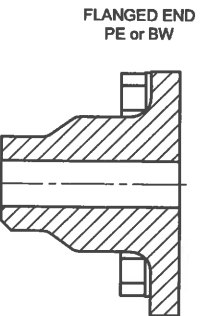
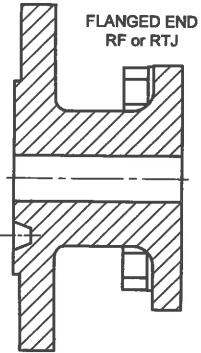
- BS 5351 (EN-ISO-17292) - ASME / ANSI B16.34 - API 6D -

FIRE TEST REPORT n° : FT-785-07-A1

Date : 29/06/07

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Page : 5 of 5

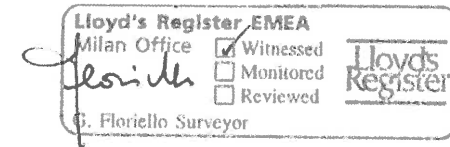


PART NO	UNIT Q.TY	PART NAME	MATERIAL
NP	1	NAME PLATE	AISI 316
1	1	HANDLE	Carbon Steel + Epoxy Coated
2	2	HANDLE NUT	AISI 304
3	1	PACKING RING	Graphite
4	2	SPRING WASHER	AISI 316 Treated
5	1	ANTISTATIC STEM	S.S. 316/316L Dual Cert.
6	1	GLAND PACKING	AISI 316
7	1	THRUST WASHER	Reinforced PTFE
8	1	'O' RING STEM	HNBR
9	1	BALL	S.S. 316/316L Dual Cert.
10	2	SEAT RING	S.S. 316/316L Dual Cert.
10a	2	SEAT	Peek
10b	2	SEAT GASKET	HNBR
10c	2	SEAT RING GASKET	HNBR
11	2	FIRST BODY GASKET	HNBR
12	1	BODY	S.S. 316/316L Dual Cert.
13	2	END CONNECTION	S.S. 316/316L Dual Cert.
14	1	STOP PIN	A4-70
15	1	ANTISTATIC DEVICE	Stainless Steel
16	Note1	BOLTS	ASTM A193 B8
17	1	STOP WASHER	AISI 304
18	2	EMERGENCY BODY SEAL	Graphite

*Suggested material after two years service

Notes:

- 1) Number of bolts for different size:
 DN 15 + DN 40 n° 4 + 4 Bolts;
 DN 50 + DN 65 n° 6 + 6 Bolts;



Rev.	Date	Reason for revision	Made By	Chk'd By	Appr. By
0	29/06/07	First Issue			

Ball Valves Type : FLOATING VALVE ENCAPSULED SEAT
 Port Design : FULL BORE
 Class of Valve : 600 Lbs
 End Connections : FLANGED RF

STAR LINE
 S. PAOLO D'ARGON BERGAMO ITALY



Startline Fig. n° : 116-PGH-G

Drawing n° : FT-785/07-E1