

FIRE TEST QUALIFICATION CERTIFICATE



Score (Europe) Ltd



Item	Nextech Ball Valve
Size	2" Full Bore
Class	300
Serial No	07012507
Body Material	A216 - WCB
Seat	4130 / RAM1
Manufactured by	Valvtechnologies Inc.
In accordance with job number	194608 COW
In accordance with drawing number	071791-1 Rev 0 (dated 11/02/08)

The above valve was tested by Score (Europe) Ltd at their Specialised Valve Research and Test Centre, Cowdenbeath, Scotland and the results have been recorded as a PASS, having complied with the minimum performance requirements stated in specification

BS EN ISO 10497:2004 Second Edition August 2004 & ANSI/API Specification 607 Fifth Edition, June 2005

Test date	17/12/08
Other sizes qualified	2" & below, 2½", 3", 4"
Other pressure ranges qualified	300, 400, 600 & PN 40, 63, 100

Tested by W Hay / S Fox / G Johnston

Witnessed by W Campbell
- Lloyds Register
EMEA

This certificate must be read in conjunction with the full
Score Test Report Number

194608-1a



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FIRE TEST REPORT

**IN ACCORDANCE WITH
BS EN ISO 10497:2004 Second Edition August 2004
&
ANSI/API Standard 607 Fifth Edition June 2005**

CUSTOMER: Valvtechnologies Inc.

CONTACT: E. Ackling

P.O. NUMBER: 041624-00

VALVE: 2" NB ANSI 300, FB, Nextech Ball Valve

Report Compiled By: **D. Wood**

Date: **17/12/08**

Score Job Number: **194608 COW**

Report No: **194608-1a**

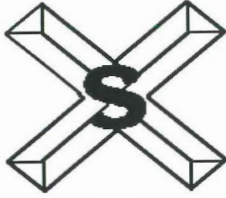


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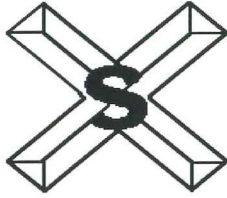
SCORE (EUROPE) LIMITED

Engineering Research, Design, Manufacture & Repair

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VALVE DETAILS AND TEST PREPARATION

On 17th December 2008 at Score (Europe) Limited, Cowdenbeath, Fife, Scotland, a Fire Test to BS EN ISO 10497:2004, Second Edition August 2004 and ANSI/API Standard 607, Fifth Edition June 2005 was carried out on behalf of Valvtechnologies Inc.

The valve was selected and supplied by the manufacturer Valvtechnologies Inc. and was gearbox driven

Details

Type:	Nextech Ball Valve	Score Report No:	194608-1
Manufacturer:	Valvtechnologies Inc.	Size:	2"
Full or Reduced Bore:	Full	Rating:	300
Serial No:	07012507	Drawing No:	071791-1 Rev 0 Dated 11/02/08
Model No:	N5C6T-RF-FP-BS-2		

Material:

Body/End Cap: **A216 - WCB**
Seal: **Grafoil**
Seat: **4130 / RAM 1**

Gearbox:

Manufacturer: **Exeeco (Rotork)**
Type: **IW3/40 (G/W030040E)**
Serial No: **WA270902-036**
Handwheel: **12"**

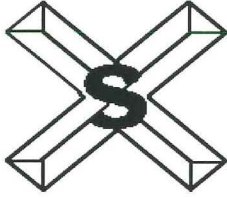
Test Preparation

The valve was removed from transportation package and the above information correlated from the Manufacturer's nameplate/valve body. At the same time the Manufacturer's Test Certificate was checked to ensure the valve has passed their standard production pressure testing. Valve was previously hard stamped with Score Unique Number 194608-1. Valve mounted into test stand with calorimeter cubes and flame environment thermocouples in their appropriate locations as per the standard, these in turn being connected through a Chessell Temperature Recorder with automatic printout facilities. The inlet/outlet pipe work was connected to the valve. With the valve in the partially open position the system was checked for leaks by pressurising to 1.4 times the maximum permissible working pressure at 20°C.

ABERDEEN OFFICE
LLOYD'S REGISTER EMEA

D. Wood
18 DEC 2008





SCORE (EUROPE) LIMITED

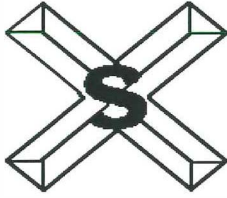
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TEST REPORT

<u>TIME</u>	<u>DESCRIPTION</u>	<u>ACTUAL LEAKAGE IN ML/MIN</u>
<u>09:11 – 09:41</u>	Through seat leakage at test pressure of 38.3 BARG during burn period of 30 min. - (measured Zero ml) Allowable 800 ml/min.	Zero ml/min.
<u>09:42 – 09:50</u>	Cool down period took 8 minutes for skin temperature to reach 100°C.	
<u>09:11 – 09:50</u>	External leakage during the burn and cool down period - (measured Zero ml) Allowable 200 ml/min.	Zero ml/min.
<u>09:51 – 09:56</u>	Through seat leakage on low pressure test at 2 BARG for 5 mins (measured Zero ml) Allowable 80 ml/min.	Zero ml/min.
<u>09:57 – 10:02</u>	External leakage at 38.3 BARG in open position following operational test for 5 minutes (measured Zero ml) Allowable 50 ml/min.	Zero ml/min.

Test concluded at this point.





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TEST RESULTS

Calorimeter cubes and flame environment thermocouples temperature checks.

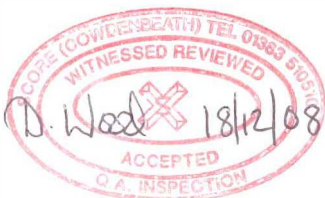
Probe numbers 5 through 10 plus 12 (11 not used).

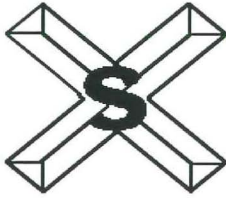
Burner ignited 09:11.

<u>No.5</u> Top Body Thermocouple Temp.° C	<u>No.6</u> Bonnet Thermocouple Temp.° C	<u>No.7</u> Stem Flame Temp.° C	<u>No.8</u> Bottom Flame Temp.° C
<u>No.9</u> Stem Calor.Cube Temp.° C	<u>No.10</u> Bottom Calor.Cube Temp.° C	<u>No.11</u> Not Used	<u>No.12</u> Body Skin Temp.° C

For the duration of this test all temperatures recorded complied with BS EN ISO 10497:2004, Second Edition August 2004 and ANSI/API Standard 607, Fifth Edition June 2005

Test and temperatures witnessed by Lloyd's Register EMEA.





SCORE (EUROPE) LIMITED

Engineering Research, Design, Manufacture & Repair

TEST RESULTS

From the test results obtained, we confirm the valve tested has met the performance requirements stated in BS EN ISO 10497:2004, Second edition August 2004 and ANSI/API Standard 607 Fifth Edition June 2005 and the test is therefore recorded as a PASS.

Range qualified by this test:

Size: 2" & Below, 2½", 3", 4"

Rating: CLASS
300, 400, 600 & PN 40, 63, 100

Test Witnessed by:

W Campbell

S Fox
W Hay
G Johnston

E Ackling

Lloyd's Register EMEA

Score (Europe) Limited
Score (Europe) Limited
Score (Europe) Limited

Valvtechnologies Inc.



Lloyd's Register Fire Test

Project: **VALVTECHNOLOGIES.**

Client: **Score Europe Ltd**

Office: **Aberdeen**

Clients Order Number: **87169**

Date: **18 December 2008**

Order Status: **Incomplete**

Inspection Dates

First: **16 December 2008**

Final: **18 December 2008**

This certificate is issued to **Score (Europe) Limited, as at their request the undersigned Surveyor did attend their Works at Woodend, Cowdenbeath, Fife, for the purpose of witnessing a Fire Test on a Ball Valve stated to be manufactured by VALVTECHNOLOGIES Drawing Number 071791-1 dated 11.2.08 Rev 0 Order No 041624-00.**

Details of the valve are as follows:-

Size: 2" NB ANSI 300 Full Port Nextech Carbon Steel Trunnion Style Metal Seated Zero Leakage Ball Valve.

Serial No 07012507.

Gearbox Driven: Exeeco IW3/40

Class: 300.

Seat: 4130 / RAM 1.

Body/End Cap: WCB.

Seal.Grafoil. Packing Grafoil / 625 Mesh.

Valve stamped: Score Unique No.194608-1

Temperature thermocouples were placed as follows:-

5. "Top Body" Thermocouple °C.
6. "Bonnet" Thermocouple °C.
7. "Stem Flame" Temperature °C.
8. "Bottom Flame" Temperature °C.
9. "Stem Calorimeter Cube" Temperature °C.
10. "Bottom Calorimeter Cube" Temperature °C.
11. "Not used".
12. "Skin" Temperature. °C.

The Fire Test was carried out in accordance with BS EN ISO 10497:2004 Second Edition August 2004 and ANSI/API Standard 607 Fifth Edition June 2005. and Score Report Number 194608-1a.

The valve was mounted into test stand with the Calorimeter Cubes and Flame Environment Thermocouples in their appropriate locations, which were connected to a Chessel Model 4001 temperature recorder with automatic printout facilities, Serial Number 0190-419119 calibration of which was verified.

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Form 1123 (2005.02)

All measuring and test equipment used was correctly calibrated.

Both the inlet and outlet pipework were connected to the valve, with the valve in the partially open position the system was filled with water and the air purged out. The system was checked for leaks by pressurising to 1.4 times maximum permissible working pressure and found tight.

During burn period the pressure was maintained at 38.3 Bar G by occasional manual adjustment.

On completion of the burn period of 30 minutes duration the valve was force cooled to 100°C.

Cool down took 8 minutes for skin temperature to reach 100°C.

The results of the Fire Test were then recorded as follows:-

Through Seat Leakage at test pressure of 38.3 Bar G during burn period over 30 minutes = 0 ml = 0 ml/min (allowable 800 ml/min).

External leakage (test pressure 38.3 Bar G during burn and cool down periods = 0 ml = 0 ml/min (allowable 200 ml/min).


Through seat leakage at test pressure of 2 Bar G after cool down over 5 minutes measured 0 ml = 0 ml/min (allowable 80 ml/min).

External leakage with valve pressurised to 38.3 Bar G in fully open position over 5 minutes = 0 ml = 0 ml/min (allowable 50 ml/min).

The test was concluded at this point.

The valve was dis-assembled and examined to verify compliance with Drawing Number 071791-1 Rev 0 dated 11.02.08 and found to comply.

In respect of the test results now stated, it is considered that the valve complies with the requirements of BS EN ISO 10497:2004 Second Edition August 2004 and ANSI/API Standard 607 Fifth Edition June 2005. See Score Report Number 194608-1a for full details.

WL Campbell. 
Surveyor to Lloyd's Register EMEA

A member of the Lloyd's Register Group