

FIRE TEST QUALIFICATION CERTIFICATE



Score (Europe) Ltd



Item	Nextech Ball Valve
Size	6" Full Bore
Class	300
Serial No	07012508
Body Material	A216 - WCB
Seat	4130 / RAM1
Manufactured by	Valvtechnologies Inc.
In accordance with job number	194608 COW
In accordance with drawing number	071791-2 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	16/12/08
Other sizes qualified	6", 8", 10", 12"
Other pressure ranges qualified	300, 400, 600 & PN 40, 63, 100

Tested by W Hay / S Fox / G Johnston

D. Wood 12/10/09

Witnessed by W Campbell
- Lloyds Register EMEA

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

194608-2



Score (Europe) Limited

The Paragon Works

Woodend Place

Cowdenbeath

Fife

KY4 8EE

Scotland

U.K.

Tel: +44 (0) 1383 510510 Fax: +44 (0) 1383 514512

E-mail: customersupport@score-group.com

Web: www.score-group.com

Intelligent Valve Management™

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: 6" NB ANSI 300, FB, Nextech Ball Valve

Report Compiled By: **D. Wood**

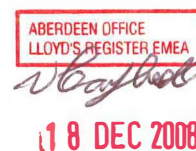
Date: **16/12/08**

Score Job Number: **194608 COW**

Report No: **194608-2**



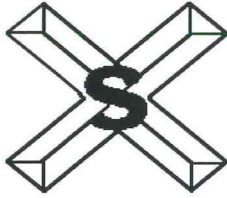
194608-2



1



INVESTOR IN PEOPLE



SCORE (EUROPE) LIMITED

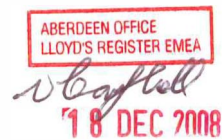
Engineering Research, Design, Manufacture & Repair

CONTENTS

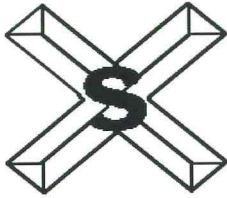
	<u>Page Nos.</u>
Front Page	1 of 6
Contents	2 of 6
Valve Details and Test Preparation	3 of 6
Test Report/Results	4 of 6 5 of 6
Certificate/Statement on Production Pressure Tests	6 of 6
Fire Test Certificate	Appendix (a)
Lloyds Certificate	Appendix (b)



194608-2



2



SCORE (EUROPE) LIMITED

Engineering Research, Design, Manufacture & Repair

VALVE DETAILS AND TEST PREPARATION

On 16th 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:	194608-2
Manufacturer:	Valvtechnologies Inc.	Size:	6"
Full or Reduced Bore:	Full	Rating:	300
Serial No:	07012508	Drawing No:	071791-2 Rev 0 Dated 11/02/08
Model No:	N5C6T-RF-FP-BS-6		

Material:

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

Gearbox:

Manufacturer: **Exeeco (Rotork)**
Type: **IW5/70**
Serial No: **T1789001-001**
Handwheel: **32"**

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 hard stamped with Score Unique Number 194608-2. 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.

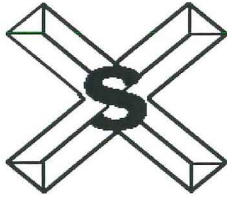


194608-2



N. Bayliss

11 8 DEC 2008



SCORE (EUROPE) LIMITED

Engineering Research, Design, Manufacture & Repair

TEST REPORT

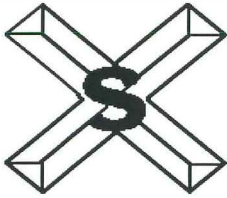
<u>TIME</u>	<u>DESCRIPTION</u>	<u>ACTUAL LEAKAGE IN ML/MIN</u>
<u>13:10 – 13:40</u>	Through seat leakage at test pressure of 38.3 BARG during burn period of 30 min. - (measured Zero ml) Allowable 2400 ml/min.	Zero ml/min.
<u>13:42 – 13:48</u>	Cool down period took 6 minutes for skin temperature to reach 100°C.	
<u>13:10 – 13:48</u>	External leakage during the burn and cool down period - (measured Zero ml) Allowable 600 ml/min.	Zero ml/min.
<u>13:49 – 13:54</u>	Through seat leakage on low pressure test at 2 BARG for 5 mins (measured Zero ml) Allowable 240 ml/min.	Zero ml/min.
<u>13:58 – 14:03</u>	External leakage at 38.3 BARG in open position following operational test for 5 minutes (measured Zero ml) Allowable 150 ml/min.	Zero ml/min.

Test concluded at this point.



194608-2





SCORE (EUROPE) LIMITED

Engineering Research, Design, Manufacture & Repair

TEST RESULTS

Calorimeter cubes and flame environment thermocouples temperature checks.

Probe numbers 7 through 10 plus 12 (11 not used).

Burner ignited 13:10.

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

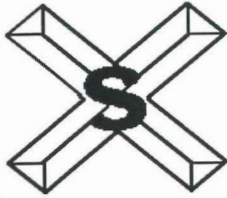
Test and temperatures witnessed by Lloyd's Register EMEA.



194608-2



5



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: 6", 8", 10", 12"
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.





Fire Test

Project: **VALVTECHNOLOGIES.**

Client: **Score Europe Ltd**

Office: **Aberdeen**

Clients Order Number: **87169**

Date: **17 December 2008**

Order Status: **Incomplete**

Inspection Dates

First: **16 December 2008**

Final: **17 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 071791-2 dated 11.2.08 Rev 0 Order No 041624-00**

Details of the valve are as follows:-

Size: 6" NB ANSI 300 Full Port Nextech Carbon Steel Trunnion Style Metal Seated Zero Leakage Ball Valve.

Serial No 07012508.

Gearbox Driven: Exeeco IW5/70

Class: 300.

Seat: 4130 / RAM 1.

Body/End Cap: WCB.

Seal.Grafoil. Packing Grafoil / 625 Mesh.

Valve stamped: Score Unique No.194608-2

Temperature thermocouples were placed as follows:-

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 194608-2.

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.

Lloyd's Register, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register Group'. The Lloyd's Register Group assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register Group entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

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 6 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 2400 ml/min).

External leakage (test pressure 38.3 Bar G during burn and cool down periods = 0 ml = 0 ml/min (allowable 600 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 240 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 150 ml/min).

The test was concluded at this point.

The valve was dis-assembled and examined to verify compliance with Drawing Number 071791-2 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 194608-2 for full details.


WL Campbell.
Surveyor to Lloyd's Register EMEA

A member of the Lloyd's Register Group