

YARMOUTH RESEARCH AND TECHNOLOGY, LLC

March 12, 2018

Please find attached summary list of all the Firesafe certificates performed by Yarmouth Research and Technology, LLC from 2006 to 2018. We hereby testify this is a true and correct summary record of all the certification tests performed and passed to the indicated standards.



Matthew J Wasielewski, PE
President and General Manager
Yarmouth Research and Technology, LLC

FireSafe Test Certification Summary

Performed for

Australian Pipeline Valve

www.australianpipelinevalve.com.au/

← *Performed by* →

YARMOUTH RESEARCH AND TECHNOLOGY, LLC

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(207) 829-5359

info@yarmouthresearch.com

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Yarmouth Research and Technology, LLC

Ref. Item	Product Description	Test Date	Size - NPS	Pressure Rating - ANSI Class	Body Material	Seat Material	Seal Material	Other Sizes Qualified	Certificate Number	Firesafe Test Standard
3.3	1.5 INCH CLASS 800 3-PIECE BOLTED BALL VALVE, BV100	6/15/2006	1.5	800	A105	RPTFE	GRAPHITE	1/2"-3" Class 800-1500 and PN100-PN260	PN204114-112-800BALL	API 607 5TH EDITION ISO 10497-2004
3.3	1.5 INCH CLASS 800 3-PIECE BOLTED BALL VALVE, BV100	6/15/2006	1.5	800	A105	RPTFE	GRAPHITE	1.5"-3" Class 800-900 and PN130-PN150	PN204114-112-800BALL	API 6FA 3RD EDITION 1999
1.1A	2" CLASS 1500 SPLIT BODY SIDE ENTRY FLOATING BALL VALVE API608, API6D, ANSI B16, SOFT SEAT, BV100	7-Jul-15	2"	1500	STAINLESS STEEL	TFM/DEVLON	PTFE/GRAPHITE/VITON	4" and below Class 1500-2500 and PN260-PN420	215067 - 1.1A	API 607 6TH EDITION ISO 10497-2010
1	2 inch Class 150 RF Ball Valve, Side Entry, Trunnion Mounted API6D, Model BVF100-FTAC2223AADD	2/2/2018	2	150	ASTM A182 F316 Stainless Steel	RPTFE	Graphite/Viton	1/2"-4" Class 150-300 *	217213A	API 607 7th Edition ISO 10497-2010
1.5	2" CLASS 600 RF BALL VALVE 3 PIECE TRUNNION MOUNTED API16D, BVF100	15-Jan-14	2"	600	LF2 - Carbon Steel	RPTFE	Graphite / Viton	1/2 -4" Class 600-900	213099 - 1.5	API 607 6TH EDITION ISO 10497-2010
3.6	3 INCH CLASS 1500 FULL PORT BALL VALVE, BVF100	9/28/2005	3	1500	LF2	NYLON	GRAPHITE/VITON	3"-6" Class 1500-2500	PN204114C	API 607 5TH EDITION ISO 10497-2004

*As per API 607 7th edition, clause 7.2.2 and ISO 10497-2010, testing a mid range austenitic sample in the same model of ferritic valves covered, also covers austenitic valves in the same coverage range as ferritic as follows: All sizes 1/2" & above Class 150 to 1500 and 1/2" to 6" Class 2500.

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Ref. Item	Product Description	Test Date	Size - NPS	Pressure Rating - ANSI Class	Body Material	Seat Material	Seal Material	Other Sizes Qualified	Certificate Number	Firesafe Test Standard
3.6	3 INCH CLASS 1500 FULL PORT BALL VALVE, BVF100	9/28/2005	3	1500	LF2	NYLON	GRAPHITE/ VITON	3"-6" Class 1500-2500 and API 6A 3-1/8" to 7-1/16" 5000 psi	PN204114C	API 6FA 3RD EDITION 1999
3	6 inch Class 150 RF Ball Valve, 3 Piece, Trunnion Mounted API 6D, Model BVF100-FTAA2223AAADB	2/14/2018	6	150	A105N Carbon Steel	RPTFE	Graphite/ Viton	6"-12" Class 150-300	217213B	API 607 7th Edition ISO 10497-2010
4	6 inch Class 600 RF Ball Valve, 3 Piece, Trunnion Mounted, API 6D, Model BVF100-FTCA2223CACEB	2/14/2018	6	600	A105N Carbon Steel	Devlon	Graphite/ Viton	6"-12" Class 600-900	217213C	API 607 7th Edition ISO 10497-2010
1.8	8" CLASS 150 RF BALL VALVE 3 PIECE TRUNNION MOUNTED API6D, SOFT SEAT, BVF100	21-Jul-15	8"	150	CARBON STEEL	RPTFE	GRAPHITE/ VITON	8" and larger Class 150-300 and PN10 to PN40	215067 - 1.8	API 607 6TH EDITION ISO 10497-2010
5	8 inch Class 150 RF Ball Valve, 3 Piece, Trunnion Mounted API6D, Model BVF100-FTAC2223AAAED	2/13/2018	8	150	ASTM A182 F316 Stainless Steel	RPTFE	Graphite/ Viton	8" & above Class 150-300 *	217213D	API 607 7th Edition ISO 10497-2010
1.9	8" CLASS 600 RF BALL VALVE 3 PIECE TRUNNION MOUNTED API6D, SOFT SEAT, BV100	23-Jul-15	8"	600	Carbon Steel	DEVLON	GRAPHITE/ VITON	8" and larger Class 600-900	215067 - 1.9	API 607 6TH EDITION ISO 10497-2010

*As per API 607 7th edition, clause 7.2.2 and ISO 10497-2010, testing a mid range austenitic sample in the same model of ferritic valves covered, also covers austenitic valves in the same coverage range as ferritic as follows: All sizes 1/2" & above Class 150 to 1500 and 1/2" to 6" Class 2500.

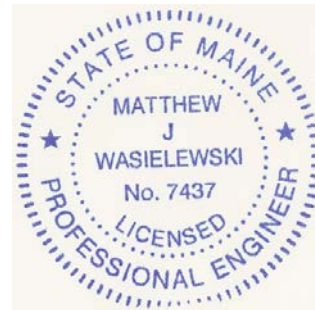
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Ref. Item	Product Description	Test Date	Size - NPS	Pressure Rating - ANSI Class	Body Material	Seat Material	Seal Material	Other Valves Qualified	Certificate Number	Firesafe Test Standard
6	8 inch Class 600 RF Ball Valve, 3 Piece, Trunnion Mounted, API 6D, Model BVF100-FTCC2523AAAEDC	2/15/2018	8	600	ASTM A182 F316 Stainless Steel	Devlon	Graphite/ Viton	8" & above Class 600-900 *	217213E	API 607 7th Edition ISO 10497-2010
7	8 inch Class 900 RF Ball Valve, 3 Piece, Trunnion Mounted, API 6D, Model BVF100-FTEA2523AAAED	2/13/2018	8	900	A105N Carbon Steel	Devlon	Graphite/ Viton	8" & above Class 900 - 1500	217213F	API 607 7th Edition ISO 10497-2010
3.2	1 INCH CLASS 1500 REDUCED PORT BALL VALVE, FS660	9/28/2005	1	1500	A105	NYLON	GRAPHITE/ VITON	1/2"-2" Class 1500-2500 and PN260 to PN420	PN204114A	API 607 5TH EDITION ISO 10497-2004
3.2	1 INCH CLASS 1500 REDUCED PORT BALL VALVE, FS660	9/28/2005	1	1500	A105	NYLON	GRAPHITE/ VITON	1"-2" Class 1500-2500 and PN260 to PN420	PN204114A	API 6FA 3RD EDITION 1999
3.4	2 INCH CLASS 800 2-PIECE FLOATING BALL VALVE, FS660	6/15/2006	2	800	A216-WCB	RPTFE	GRAPHITE	1/2"-4" Class 800-1500 and PN100 to PN260	PN204114-2-800BALL	API 607 5TH EDITION ISO 10497-2004
3.4	2 INCH CLASS 800 2-PIECE FLOATING BALL VALVE, FS660	6/15/2006	2	800	A216-WCB	RPTFE	GRAPHITE	2"-4" Class 800-900 and PN130 to PN150	PN204114-2-800BALL	API 6FA 3RD EDITION 1999

*As per API 607 7th edition, clause 7.2.2 and ISO 10497-2010, testing a mid range austenitic sample in the same model of ferritic valves covered, also covers austenitic valves in the same coverage range as ferritic as follows: All sizes 1/2" & above Class 150 to 1500 and 1/2" to 6" Class 2500.

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Ref. Item	Product Description	Test Date	Size - NPS	Pressure Rating - ANSI Class	Body Material	Seat Material	Seal Material	Other Valves Qualified	Certificate Number	Firesafe Test Standard
3.1	1 INCH CLASS 800 1-PIECE FLOATING BALL VALVE, FS900	6/14/2006	1	800	A216-WCB	RPTFE	GRAPHITE	1/2" - 2" Class 800-1500 and PN100-PN260	PN204114-1-800Ball	API 607 5TH EDITION ISO 10497-2004
3.1	1 INCH CLASS 800 1-PIECE FLOATING BALL VALVE, FS900	6/14/2006	1	800	A216-WCB	RPTFE	GRAPHITE	1"-2" Class 800-900 and PN130 to PN150	PN204114-1-800Ball	API 6FA 3RD EDITION 1999
1.6.1	2" CLASS 600 RF BALL VALVE 2 PIECE TRUNNION MOUNTED API6D, SOFT SEAT, FS9000	6-Jul-15	2"	600	CARBON STEEL	A182 F316/ RPTFE	GRAPHITE/ VITON	4" and below Class 600-900	215067 - 1.6.1	API 607 6TH EDITION ISO 10497-2010
1.6	3" CLASS 150 RF BALL VALVE 2 PIECE TRUNNION MOUNTED API16D, FS9000	9-Jan-14	3"	150	A216 WCB	RPTFE	Graphite / Viton	3 - 6" Class 150-300 and PN10 to PN40	213099 - 1.6	API 607 6TH EDITION ISO 10497-2010
3.7	6 INCH CLASS 600 REDUCED PORT BALL VALVE, FS9000	9/28/2005	6	600	A216-WCB	NYLON	GRAPHITE/ VITON	6"-12" Class 600-900	PN204114B	API 607 5TH EDITION ISO 10497-2004
3.7	6 INCH CLASS 600 REDUCED PORT BALL VALVE, FS9000	9/28/2005	6	600	A216-WCB	NYLON	GRAPHITE/ VITON	6"-12" Class 600-900 and API 6A 7-1/16" to 11" 2000 to 3000 psi	PN204114B	API 6FA 3RD EDITION 1999
1.7	8" Class 150 RF BALL VALVE 2 PIECE TRUNNION MOUNTED API6D, SOFT SEAT, FS9000	21-Jul-15	8"	150	CARBON STEEL	A182 F316/ RPTFE	GRAPHITE/ VITON	8" and larger Class 150-300 and PN10 to PN40	215067 - 1.7	API 607 6TH EDITION ISO 10497-2010

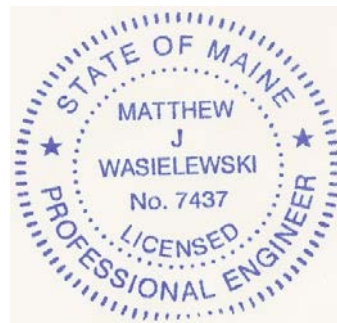
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Ref. Item	Product Description	Test Date	Size - NPS	Pressure Rating - ANSI Class	Body Material	Seat Material	Seal Material	Other Valves Qualified	Certificate Number	Firesafe Test Standard
1.17	8" CLASS 600 BALL VALVE 2 PIECE TRUNNION MOUNTED	20-May-16	8"	600	CARBON STEEL	DEVLON	VITON/ GRAPHITE	8" and larger Class 600-900	216067 - 1.17	API 607 6TH EDITION ISO 10497-2010
1.18	2" CLASS 150 WCB FLOATING BALL VALVE SLFSBV01	6-Apr-17	2"	150	A216 -WCB	PTFE	Graphite	1/2"-4" Class 150-300	217131A	API 607 7TH EDITION ISO 10497-2010
1.2	2" CLASS 300 RF BALL VALVE 2 PIECE FLOATING BALL API608, API6D, ANSI B16, SLFSBV01	11-Jan-14	2"	300	A216 WCB	PTFE	GRAPHITE	1/2 - 4" Class 300-600 and PN10 to PN40	213099 - 1.2	API 607 6TH EDITION ISO 10497-2010
3.5	4 INCH CLASS 150 FULL PORT BALL VALVE, SLFSBV01	6/16/2006	4	150	A216-WCB	PTFE	GRAPHITE	4"-8" Class 150- 300 and PN10 to PN40	PN204114-4- 150BALL	API 607 5TH EDITION ISO 10497-2004
3.5	4 INCH CLASS 150 FULL PORT BALL VALVE, SLFSBV01	6/16/2006	4	150	A216-WCB	PTFE	GRAPHITE	4"-8" Class 150- 300 and PN10 to PN40	PN204114-4- 150BALL	API 6FA 3RD EDITION 1999
1.4	8" CLASS 150 RF BALL VALVE 2 PIECE FLOATING BALL API608, API6D, ANSI B16, SLFSBV01	20-Jan-14	8"	150	A216 WCB	PTFE	Graphite	8" and larger Class 150-300 and PN10 to PN40	213099- 1.4	API 607 6TH EDITION ISO 10497-2010
1.1	2" CLASS 150 BALL VALVE 1 PIECE END ENTRY FLOATING BALL API608, API6D, ANSI B16, SLFSBV01	8-Jan-14	2"	150	A216 WCB	PTFE	GRAPHITE	1/2 - 4" Class 150-300 and PN10 to PN40	213099 - 1.1	API 607 6TH EDITION ISO 10497-2010

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Ref. Item	Product Description	Test Date	Size - NPS	Pressure Rating - ANSI Class	Body Material	Seat Material	Seal Material	Other Sizes Qualified	Certificate Number	Firesafe Test Standard
1.3	6" CLASS 150 BALL VALVE 1 PIECE END ENTRY FLOATING BALL API608, API6D, ANSI B16, SLFSBV02	15-May-17	6"	150	A216 -WCB	RPTFE	Graphite	6" to 12" Class 150-300	217131B	API 607 7TH EDITION ISO 10497-2010
1.10	2" CLASS 300 RF HIGH PERFORMANCE BUTTERFLY VALVE DOUBLE OFFSET DISC API609, MSS-SP68, SOFT SEAT, SLHBFFS	9-Jul-15	2"	300	Stainless Steel	RPTFE	GRAPHITE	4" and below Class 300-600 and PN40 to PN100	215067 - 1.10	API 607 6TH EDITION ISO 10497-2010
1.11	6" Class 150 RF HIGH PERFORMANCE BUTTERFLY VALVE DOUBLE OFFSET DISC API609, MSS-SP68, SOFT SEAT, SLHBFFS	21-Jul-15	6"	150	Carbon Steel	PTFE	GRAPHITE	6" to 12" Class 150-300 and PN10 to PN40	215067 - 1.11	API 607 6TH EDITION ISO 10497-2010
8	3 inch Class 300 Gate Valve, API 600, Model AP33XUF	2/2/2018	3	300	A216 WCB Carbon Steel	A105+ST#6	Graphite	3"-6" Class 300-600	217313A	API 6FA 3rd Edition 1999
1.12	8" CLASS 150 RF FLANGED GATE VALVE BBOSY API600, P47XUF-2B	22-Jan-14	8"	150	A216 WCB	PTFE	GRAPHITE	8 - 16" Class 150-300 and PN10 to PN40	213099 - 1.12	API 6FA 3RD EDITION 1999
1.14	2" CLASS 150 LUBRICATED PLUG VALVE API6D PRESSURE BALANCED INVERTED PLUG VALVE, MODEL SSCR	6-Jul-16	2"	150	Carbon Steel	Lubricated-Metal	GRAPHITE	4" and below Class 150-300 and PN10 to PN40	215067-1.14	API 607 6TH EDITION ISO 10497-2010

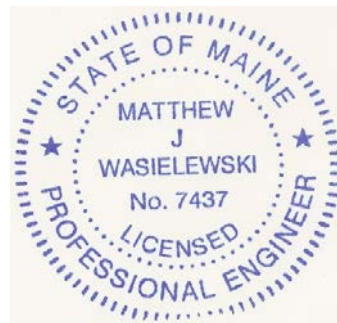
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Ref. Item	Product Description	Test Date	Size - NPS	Pressure Rating - ANSI Class	Body Material	Seat Material	Seal Material	Other Sizes Qualified	Certificate Number	Firesafe Test Standard
3.8	2 INCH CLASS 600 CAST LUBRICATED PLUG VALVE, MODEL SSCR	6/14/2006	2	600	A216-WCB	Metal-Lubricated	GRAPHITE	2"-4" Class 600-900	204114-2-600PLUG	API 607 5TH EDITION ISO 10497-2004
3.8	APV 2 INCH CLASS 600 CAST LUBRICATED PLUG VALVE, MODEL SSCR	6/14/2006	2	600	A216-WCB	Lubricated-Metal	GRAPHITE	2"-4" Class 600-900 and API 6A 1-13/16" to 4-1/16" 2000-3000 psi	204114-2-600PLUG	API 6FA 3RD EDITION 1999
1.16	APV 2 inch CLASS 1500 LUBRICATED PLUG VALVE API6D PRESSURE BALANCED INVERTED PLUG	10-Jul-15	2"	1500	CARBON STEEL	Lubricated-Metal	GRAPHITE	4" and below Class 1500-2500	215067 - 1.16	API 607 6TH EDITION ISO 10497-2010
1.15	APV 6 inch CLASS 600 LUBRICATED PLUG VALVE API6D PRESSURE BALANCED INVERTED PLUG	22-Jul-15	6"	600	CARBON STEEL	Lubricated-Metal	GRAPHITE	6" to 12" Class 600-900	215067 - 1.15	API 607 6TH EDITION ISO 10497-2010
1.13	8" CLASS 150 RF LUBRICATED PLUG VALVE API6D PRESSURE BALANCED INVERTED PLUG, MODEL SSCR	20-Mar-14	8"	150	A216 WCB	Metal/Lubricated	Graphite	8" and larger Class 150-300 and PN10 to PN40	213099 - 1.13	API 607 6TH EDITION ISO 10497-2010

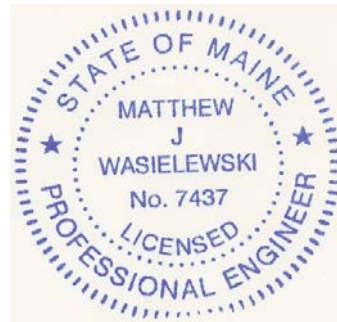
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FOR VALVE

Valid for products not subject to DNV GL classification requirements.

Particulars of Product

Product Name:	Ball, Butterfly, Gate, Globe, and Plug Valve
Type designation:	Ref. to attachement
Application/context:	As per witness certificates
ID/Serial/Tag no:	N.A.
The product is intended for:	Stock/Projects
Requirements are based on:	Fugitive Emission ISO 15848-1, ISO 15848-2, ISO 10497-2010, Cycle & Reliability Endurance test, API622- 2nd Edition 2011, Fire safe Tests API 607 6th Edition

Deviations and limitations, if any, are stated on page 2 onwards.

Particulars of Vendor and Purchaser

Vendor:	Global Supply Line Pty. Ltd.
Vendor reference:	
Purchaser:	
Purchaser reference:	

Issued at **New York** on **2016-07-29**



for **DNV GL**

This document has been digitally signed and will therefore not have handwritten signatures

Fu, Guoqiang
Surveyor

Except for any liability caused by DNV GL's gross negligence or wilful misconduct, DNV GL's maximum cumulative liability arising out of or related to the use of or reliance on this document shall be limited to USD 300 000.

Verification extent and result

Verification extent:

Witness fire tests fugitive emission tests and endurance tests on valves and actuators

Verification result/comments:

Refer to attached spread sheet and each DNVGL certificate.

Report

At the request of Global Supply Line Pty Ltd, DNVGL New York Office did attend Yarmouth Research and Technology in Maine, USA to witness the fire tests fugitive emission tests and endurance tests. The tests for selected size was witnessed by DNVGL surveyor, as we have mentioned on our survey reports.

Details refer to our survey reports (report number has been listed on attached spread sheet attached: Annex 1. Firesafe tests-001, Annex II Fugitive emission tests-002, Annex III- Valve and actuator endurance - reliability cycle test coverage-003 .)

Annex I. FIRESAFE TESTS-001

ITEM	MANUFACTURER	VALVE TYPE	MODEL RANGE TESTED	SEAT/SEALS	PRODUCT DESCRIPTION	STANDARD	YARMOUTH CERTIFICATE NUMBER	DATE OF TEST/ WITNESS	COVERAGE RANGE
4.2	AUSTRALIAN PIPELINE VALVE (APV)	BALL - FLOATING	MODEL SLFSBV01	PTFE/ GRAPHITE	BALL VALVE 2 PIECE FLOATING BALL API608, API6D, ANSI B16	API 607 6TH EDITION ISO 10497-2010	SHA/873979/1604-1570, 1572	5/2/15	1/2"-2" 150 TO 600 CLASS AND 6" - 12" 150-300 CLASS † Covers Austentic & Ferritic
4.1	AUSTRALIAN PIPELINE VALVE (APV)	BALL - FLOATING	MODEL SLFSBV01	PTFE/ GRAPHITE/ VITON	BALL VALVE 2 PIECE FLOATING BALL API608, API6D, ANSI B16	API 607 6TH EDITION ISO 10497-2010	SHA/873979/1604-1573, 1571	5/2/15	6" TO 12" 150 & 300 CLASS

† API607 paragraph 7.2.2 states that if a range of valves is covered by testing ferritic valves then the same entire size and class range will be covered for duplex and austentic material by testing one mid range valve in austentic material

WE HEREBY CERTIFY THAT DNV WITNESSED ALL CERTIFICATES AND VALVES PASSED TEST IN ACCORDANCE WITH TEST STANDARDS SHOWN