



BALL VALVE TEST RECORD

Date: 2/15/17
WO#: Q19594 Item 1

CUST: Pioneer Pipe P O #: B24017382/3501061456
SPEC: WI-002-T-001 Rev 4 VALVE SERIES: 54 (55) 58
WI-004-T-001 Rev 2
SIZE & CLASS: 34" 600 Delta Ball END CONNECTION: WXW
VALVE SER #: VL11-0306-0009-0001 TEST MEDIUM: ETHYLENE GLYCOL / WATER SOLUTION
ACTUATOR TYPE: N/A ACT. SER. #: N/A
CHART ID #: 242E-3616 GAGE ID #: 6509-4

HYDROSTATIC TEST

SHELL TEST: 2450 psi DURATION: 30 min.
TORQUE @ FULL DIFF: LEFT: 55 lb-ft RIGHT: 55 lb-ft MAX: 81 lb-ft
BREAKOUT @ MAOP: Pass LEFT Pass RIGHT
LEFT SEAT: 1650 psi DURATION: 10 min
RIGHT SEAT: 1650 psi DURATION: 10 min
DOUBLE SEAT: 1650 psi DURATION: 10 min
All Lube Lines Tested @ 2450 psi for 30 min.

PNEUMATIC TEST

AIR SEAT LEFT: 80 psi DURATION: 5 min.
AIR SEAT RIGHT: 80 psi DURATION: 5 min.
DOUBLE AIR: 80 psi DURATION: 5 min.

By signature QTR certifies the above valve has satisfactorily passed all test indicated on this record.

-No visible leakage or inelastic deformation were evident during shell test

-No visible leakage evident during seat testing per ISO 5208 rate A

Pong Minter 2/15/17
QTR Inc. Representative Date

Kaveh Jamali (2-15-17)
Customer Witness (PGE) Date



QC Inspection Report & COC

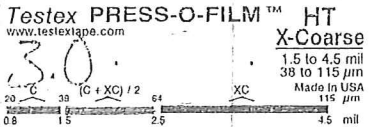
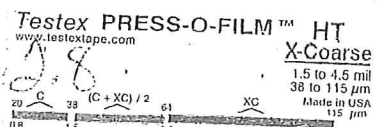
F-910-004

Revision B

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General Information		
Customer: Quarter Turn Resources	Job Traveler #: 170319	Purchaser Order #: QD17-2456
Specification & System WI-047-F-001, Rev 0	PID#: N/A	
Part #: See Attachments	Part Description: (1) 36" 600 WE w/ Extension Q19601, (10) 34" 600 WE w/ Extension Q19594	

Masking Inspection	
Was the work order packet inspected?	YES ☒ NO ☐ If no, return Job Traveler to Quality Control Department.
Is masking per customer instructions?	YES ☒ NO ☐
If everything is in conformance, authorize release to the next step by signing below. If no, attach NCR	
Quality Control Inspector: Jose Zuniga	Date: 03/04/2017

Surface Preparation Inspection	
Was the masking inspection conducted?	YES ☒ NO ☐ If no, return Job Traveler to Quality Control Department.
Ambient conditions	
Date: 03/04/2017	Time: 9:00 am
DB: 63	WB: 56
RH: 63	DP: 50
Surface: 65	
Test Conducted	
Blotter Test Result: Pass	☒ CI Reading: <u>0</u> Lot#: 140056
☐ pH Reading: <u>N/A</u> Lot#:	
Surface Cleanliness	
SSPC-SP1: Solvent Clean	Blast SP: 10
Profile Measurements	
	
Customer specified mils: 1.5-4	Mils achieved: 2.9
If everything is in conformance, authorize release to the next step by signing below. If no, attach NCR	
Quality Control Inspector: Jose Zuniga	3rd Party Inspector: N/A

1st Coat Inspection	
Was the blasting inspection conducted?	YES ☒ NO ☐ If no, return Job Traveler to Quality Control Department.
Ambient conditions	
Date: 03/04/2017	Time: 9:15 am
DB: 63	WB: 56
RH: 63	DP: 50
Surface: 65	
Material	
Manufacture: PPG	Product Name: Dimetecote 9
Color: Green	
Part A: 9631105805	Part B: Z607004
Part C: N/A	Part D: N/A
Test Conducted	
Wet Film Thickness conducted:	YES ☐ NO ☒
Blotter Test Result: Pass	
Result	
DFT range required: 2-4	DFT range achieved: 3.5
Pass: YES ☒ NO ☐	
If everything is in conformance, authorize release to the next step by signing below. If no, attach NCR	
Quality Control Inspector: Jose Zuniga	3rd Party Inspector: N/A

2nd Coat Inspection	
Was the 1st coat inspection conducted?	YES ☒ NO ☐ If no, return Job Traveler to Quality Control Department.
Ambient conditions	
Date: 03/05/2017	Time: 9:30 am
DB: 63	WB: 61
RH: 84	DP: 60
Surface: 65	



QC Inspection Report & COC

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Revision B

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Material			
Manufacture: 3M Scotchkote		Product Name: Liquid Epoxy Coating	
Color: Green			
Part A: U-11305	Part B: U-11306	Part C: N/A	Part D: N/A
Test Conducted			
Wet Film Thickness conducted:		YES ☒ NO ☐	
Blotter Test Result: Pass			
Result			
DFT range required: 12.5-15		DFT range achieved: 13.6	
Pass: YES ☒ NO ☐			
If everything is in conformance, authorize release to the next step by signing below. If no, attach NCR			
Quality Control Inspector: Jose Zuniga		3 rd Party Inspector: N/A	

3 rd Coat Inspection						
Was the 2 nd coat inspection conducted? YES ☒ NO ☐ If no, return Job Traveler to Quality Control Department.						
Ambient conditions						
Date: 03/06/2017	Time: 11:30 am	DB: 75	WB: 73	RH: 84	DP: 70	Surface: 77
Material						
Manufacture: 3M Scotchkote		Product Name: Liquid Epoxy Coating		Color: Green		
Part A: U-11305	Part B: U-11306	Part C: N/A	Part D: N/A			
Test Conducted						
Wet Film Thickness conducted:		YES ☒ NO ☐		Blotter Test Result: Pass		
Result						
DFT range required: 12.5-15		DFT range achieved: 29.4		Pass: YES ☒ NO ☐		
If everything is in conformance, authorize release to the next step by signing below. If no, attach NCR						
Quality Control Inspector: Jose Zuniga		3 rd Party Inspector: N/A				

4 th Coat Inspection						
Was the 3 rd coat inspection conducted? YES ☐ NO ☐ If no, return Job Traveler to Quality Control Department.						
Ambient conditions						
Date: 03/07/2017	Time:	DB:	WB:	RH:	DP:	Surface:
Material						
Manufacture:		Product Name:		Color:		
Part A:	Part B:	Part C:	Part D:			
Test Conducted						
Wet Film Thickness conducted:		YES ☐ NO ☐		Blotter Test Result: Fail		
Result						
DFT range required:		DFT range achieved:		Pass: YES ☐ NO ☐		
If everything is in conformance, authorize release to the next step by signing below. If no, attach NCR						
Quality Control Inspector:		3 rd Party Inspector:				
Touch-Up Inspection						
Were all coat inspections conducted? YES ☒ NO ☐ If no, return Job Traveler to Quality Control Department.						
Ambient conditions						
Date: 03/07/2017	Time: 10:00 am	DB: 76	WB: 74	RH: 82	DP: 70	Surface: 78
Material						
Manufacture: 3M Scotchkote		Product Name: Liquid Epoxy Coating		Color: Green		
Part A: U-11305	Part B: U-11306	Part C: N/A	Part D: N/A			
Result						
DFT range required: N/A		DFT range achieved: N/A		Pass: YES ☒ NO ☐		
If everything is in conformance, authorize release to the next step by signing below. If no, attach NCR						
Quality Control Inspector: Jose Zuniga		3 rd Party Inspector: N/A				



QC Inspection Report & COC

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Final Inspection

Was the touch-up inspection conducted? YES ☒ NO ☐ If no, return Job Traveler to Quality Control Department.

Where all customer specifications met? YES ☒ NO ☐ Are photos attached? YES ☐ NO ☒

Where there any NCRs written on this order? YES ☐ NO ☒ If yes, was the Non-conformance fixed? YES ☐ NO ☐

Results

DFT range achieved: 29.4 Gauge: PosiTector 6000 Serial #: 263580 Cert. Date: 12/20/2016

Holiday Test

Conducted: YES ☒ NO ☐ High Voltage ☐ Low Voltage ☒ Voltage: 67.5

Gauge: Tinker & Razor APW Serial #: 26485 Cert. Date: 04/22/2016

ASTM D4541 Adhesion Test YES ☐ NO ☒

Test date: Tester: Serial #: Certificate Date:

A= substrate / B= 1st coat / C= 2nd coat / D= 3rd coat / Y= Glue / Z= Top coat

	Dolly Size:	Type of Break:	Percentage:	Breakoff pressure:
1 st Pull				
2 nd Pull				
3 rd Pull				

Shipping Inspection

Is the order cosmetically pleasing? YES ☒ NO ☐ Is the packaging in compliance? YES ☒ NO ☐

Did Quality Control Department conduct all required inspections? YES ☒ NO ☐ Was customer informed of shipment? YES ☒ NO ☐

If everything is in conformance, authorize release to the next step by signing below. If no, attach NCR

Quality Control Inspector: Jose Zuniga 3rd Party Inspector: N/A

Attachments:

Q19594
SN VLT11-0306-0009-0001
SN VLT11-0306-0009-0002
SN VLT12-0391-0003-0004
SN VLT15-0227-0001-0003
SN VLT15-0427-0001-0004
SN VLT15-0427-0001-0002
SN VLT15-0427-0001-0001
SN VLT15-0427-0001-0007
SN VLT15-0427-0001-0006
SN VLT15-0427-0001-0005

Q19601
SN VLT15-0347-0003-0005

Anthony O'Leary
3/9/17

NACE Inspector: Jose Zuniga

Level: II

ID #: 61559

Date: 03/08/2017

CUSTOMER: VALVITALIA S.P.A.

ORDER: P110006731 29/09/2011

MATERIAL: A350LF2

STANDARD: ASTM

SPECIFICATION: OD4 REV.0

STATE OF DELIVERY: Normalizing

ASFO JOB: 112099

EXTENT OF MATERIAL DELIVERY

ITEM	Asfo Comm.	Qty	ARTICLE	HEAT	TEST
2	S00PRPA00	2	BALL 1245x832x925 OdV VLT11-0306-9 5USF341U000D4AAR0G	1411-11	117339
3	S00PRQA00	2	BODY 1431x1260x678 OdV VLT11-0306-9 7UCP341U100D4AAR0G	205883	117340

HEAT TREATMENT

Type	Heat Rate	Temperature	Holding Time	Cooling
Normalizing	70 °C/h	910 °C	240 min.	STILL AIR

LADLE ANALYSIS

Steelmaker: OLIFER-ACP S.P.A.

Heat: 1411-11

Method of manufacture: EAF, Fully Killed, VD

C [%]	Mn [%]	Si [%]	P [%]	S [%]	Ni [%]	Cr [%]	Mo [%]	Cu [%]	V [%]	CEQ [%]
0,16	1,25	0,18	0,0040	0,0020	0,08	0,12	0,030	0,11	0,0020	0,41

Steelmaker: ACCIAIERIE VENETE S.P.A.

Heat: 205883

Method of manufacture: EAF, Fully Killed, VD

C [%]	Mn [%]	Si [%]	P [%]	S [%]	Ni [%]	Cr [%]	Mo [%]	Cu [%]	V [%]	CEQ [%]
0,16	1,26	0,23	0,0090	0,0050	0,10	0,12	0,020	0,15	0,0010	0,42

TENSILE TEST

Test Requested	o Prov. [mm]	Leng. [mm]	Dirac. Tang	Temp. [°C]	Rp0.2% [MPa] min.	R [MPa] min.	A [%] min.	Z [%] min.
117339	12,50	50,00	Tang	20	275,0	485,0	22,0	30,0
117340	12,50	50,00	Tang	20	303,9	520,5	35,9	77,5

IMPACT TEST

Test Requested	Type KV	Dirac. Tang	Temp. [°C]	Av. Ener. [J] min.	Stag. Ener. [J] min.
117339	KV	Tang	-46	101	101-96-106
117340	KV	Tang	-46	95	97-94-93



22342

DATE	Performed by	ASFO S.P.A.	Approved by	INSPECTORS	CONFORMITY WITH QUALITY MANAGEMENT SYSTEM CERTIFIED BY DNV = ISO 9001:2008 =
20/12/2011	<i>Paolo Pignatelli</i>		<i>Paolo Pignatelli</i>		

34" 600 BODY SN: VLT11-0306-0009-0001 HEAT# 205883

TEST REPORT
EN 10204 3.1

No. **01116260**
Rev. 0
Page 2 of 2

CUSTOMER: VALVITALIA S.P.A.

ORDER: P110006731 29/09/2011

MATERIAL: A350LF2

STANDARD: ASTM

SPECIFICATION: 0D4 REV.0

STATE OF DELIVERY: Normalizing

ASFO JOB: 112099

HARDNESS TEST

Test Requested	Type HB	Range HB 0-190
117339	HB	148-152
117340	HB	144-150

34" 600 BODY SN: VLT11-0306-0009-0001 HEAT# 205883



DATE 20/12/2011	Performed by Laboratory Technician <i>Paolo Pitol</i>	ASFO S.P.A.	Approved by <i>Paolo Pitol</i>	INSPECTORS	COMPANY WITH QUALITY MANAGEMENT SYSTEM CERTIFIED BY DNV = ISO 9001:2008 =
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 ASFO S.P.A. 36010 CHIUPPANO (VI) - ITALIA Tel. (+39-0445-805290-Fax. (+39-0445-805299)		TEST REPORT EN 10204 3.1		No. 01116257 Rev. 0 Page 1 of 2	
CUSTOMER: VALVITALIA S.P.A.			ORDER: P110006731 29/09/2011		
MATERIAL: A694F52		STANDARD: ASTM		SPECIFICATION: ODU REV.0	
STATE OF DELIVERY: Quenching & Tempering			ASFO JOB: 112099		

EXTENT OF MATERIAL DELIVERY

ITEM	Asfo Comm.	Q.ty	ARTICLE	HEAT	TEST
4	S00PRRA00	4	CHIUSURA WE 34"600 1431x825x647 VLT11-0306-9 7UCW346U100DUAAR0G	209931	117334
5	S00PRSA00	40	CLOSURE WE 24"600 1035x560x495 VLT11-0306-6 7UCW246U100DUAAR0G	206624	117335
6	S00PRTA00	20	CLOSURE WE 24"600 1035x560x495 VLT11-0306-5 7UCW246U100DUAAR0G	206827	117336

HEAT TREATMENT

Type	Heat Rate	Temperature	Holding Time	Cooling
Quenching	70 °C/h	910 °C	240 min.	Water
Tempering	70 °C/h	540 °C	300 min.	Calm Air

LADLE ANALYSIS

Steelmaker: ACCIAIERIE BERTOLI SAFAU S.P.A. Heat: 209931 Method of manufacture: EAF, Fully Killed, VD

C [%]	Mn [%]	Si [%]	P [%]	S [%]	Ni [%]	Cr [%]	Mo [%]	Cu [%]	V [%]	Nb [%]	CEQ [%]
0,14	1,20	0,27	0,0100	0,0040	0,09	0,12	0,030	0,15	0,0510	0,0020	0,40

Steelmaker: ACCIAIERIE VENETE S.P.A. Heat: 206624 Method of manufacture: EAF, Fully Killed, VD

C [%]	Mn [%]	Si [%]	P [%]	S [%]	Ni [%]	Cr [%]	Mo [%]	Cu [%]	V [%]	Nb [%]	CEQ [%]
0,15	1,23	0,25	0,0080	0,0060	0,09	0,09	0,017	0,11	0,0520	0,0010	0,40

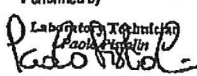
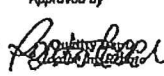
Steelmaker: ACCIAIERIE VENETE S.P.A. Heat: 206827 Method of manufacture: EAF, Fully Killed, VD

C [%]	Mn [%]	Si [%]	P [%]	S [%]	Ni [%]	Cr [%]	Mo [%]	Cu [%]	V [%]	Nb [%]	CEQ [%]
0,14	1,21	0,24	0,0100	0,0070	0,11	0,10	0,020	0,16	0,0620	0,0010	0,39

TENSILE TEST

Test Requested	s Prov. [mm]	Long. [mm]	Direc. Tang	Temp. [°C]	Rp0,2% [MPa] min. 360,0	R [MPa] min. 455,0	A [%] min. 20,0	Z [%] min. 30,0
117334	12,50	50,00	Tang	20	448,6	606,6	34,3	73,5
117335	12,50	50,00	Tang	20	436,2	590,4	34,9	74,2
117336	12,50	50,00	Tang	20	413,8	560,3	35,8	75,0



DATE 20/12/2011	Performed by 	ASFO S.P.A.	Approved by 	INSPECTORS	COMPANY WITH QUALITY MANAGEMENT SYSTEM CERTIFIED BY = ISO 9001:2008 =
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24344

34" 600 WE CLOSURES SN: VLT11-0306-0009-0001 HEAT# 209931

 ASFO S.P.A. 36010 CHIUPPANO (VI) - ITALIA Tel.(+39-0445-805290-Fax.(+39-0445-805299)		TEST REPORT EN 10204 3.1		No. 01116257 Rev. 0 Page 2 of 2
CUSTOMER: VALVITALIA S.P.A.			ORDER: P110006731 29/09/2011	
MATERIAL: A694F52		STANDARD: ASTM		SPECIFICATION: ODU REV.0
STATE OF DELIVERY: Quenching & Tempering			ASFO JOB: 112099	

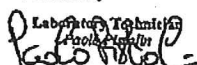
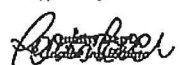
IMPACT TEST

Test Requested	Type KV	Dir. Tang.	Temp [°C] -46	Av. Ener. [J] min. 36	Sing. Ener. [J] min. 27
117334	KV	Tang	-46	80	84-80-75
117335	KV	Tang	-46	81	79-83-81
117336	KV	Tang	-46	80	84-80-76

HARDNESS TEST

Test Requested	Type HB	Range HB 0-237
117334	HB	177-180
117335	HB	158-177
117336	HB	164-158



DATE	Performed by	ASFO S.P.A.	Approved by	INSPECTORS	COMPANY WITH QUALITY MANAGEMENT SYSTEM CERTIFIED BY DNV = ISO 9001:2008 =
20/12/2011					

34" 600 WE CLOSURES
 SN: VLT11-0306-0009-0001
 HEAT# 209931



Certificato d'analisi IMS

IMS S.p.A. - Sede: via Alessandro Polini, 450 - 20862 Arcore (MB) - www.ims.it
C.F. 00485910012 - Reg. Imp. Monza e Brianza - P.I. IT 02307540962 - REA: MB.264017
Cap. Soc. € 17.200.000,00 i.v. - Direzione e coordinamento: JACQUET-METAL SERVICE S.A.

Cert N° 556216-7
Test Reference 1696144

03/02/2012

OFF. MECC. FRIGIOLA ANTONIO
VIA GALILEO GALILEI, 16
21042 CARONNO PERTUSELLA (Varese)

Ermesso da
IMS SpA
Filiale di Arcore
Via Alessandro Polini, 450
20862 Arcore (Monza e Brianza)

Venduto a: OFF. MECC. FRIGIOLA ANTONIO, VIA GALILEO GALILEI, 16, 21042 CARONNO PERTUSELLA (Varese)
Sped A: OFF. MECC. FRIGIOLA ANTONIO, VIA GALILEO GALILEI, 16, 21042 CARONNO PERTUSELLA (Varese)

Cliente 1001533/0 Vs Ordine mail 13.01 (13/01/2012)
Ns Ordine 577884-1-1 DDT 556216-1 (03/02/2012)

Barra londa forgata ASTM A350LF2 Normalizzato
350mm x 96mm Lunghezza fissa

Colata
409167

Pzl 2 KGS
148

Composizione Chimica						CER: 0.3875		DIL: 0	
C	Mn	Si	P	S	Cr	Ni	Mo		
0,172	1,01	0,27	0,007	0,002	0,12	0,1	0,02		
Cu	Al	Sn	As	V	Nb				
0,18	0,02	0,012	0,0047	0,002	0,001				

Caratt. Meccaniche				70 %	
Rm (N/mm²) (L)	Re (N/mm²) (L)	A (%) (L)			
510 N/Sq mm	368 N/Sq mm	32,8 %			
HB (C)					
157,0					

Trattamento Termico				Prove Resilienza			
Temp	Or	Mtd Raffredd		Res	UMS	Temp	DA
				KCV	J	-46 C	L
						127,0	

Microinclusioni ASTM E45							
A		B		C		D	
F	G	F	G	F	G	F	G
1,0	0,5	0,5	0,0	0,0	0,0	1,0	0,5

Controllo antimescolanza/Antimix control: 100%
Grano austenitico/Austenitic grain: 6
Controllo ultrasuoni/Ultrasonic test: EN 10308 class 3
Tasso di riduzione/Reduction ratio: 4.00
Norma di riferimento/Reference standard: ASTM A350
Tipo di certificato/Type of certificate: EN 10204 - 3.1

ORD. P. 1110007043
pos. 11



Si dichiara che il prodotto sopra descritto è conforme alle prescrizioni dell'ordine.
Il presente certificato IMS è copia conforme all'originale del produttore custodito presso i nostri archivi.
Controllo qualità di filiale: Daniele Rampinelli

03/02/2012 02.54 1

25215

34" 600 GLAND PLATE SN-VLT11-0306-0009-0001 HEAT# 409167

1493

We declare that the above described product complies with the order requirements.
This IMS certificate is a true copy of the producer's original one kept in our archives.
Branch quality control: Daniele Rampinelli

07/02/2012	11.22	D (b)	1
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25154

34" 600 STEM . SN:VLT11-0306-0009-0001 HEAT# 34977-2011