








Title <b>Inspection Report</b>	Report No: <b>INT-PRG-QAC-PLG-069</b>	Revision <b>P3-0</b>	Date <b>April 15, 2016</b>	Status <b>IFI</b>
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<b>INSPECTION REPORT</b>		No: INT-PRG-QAC-PLG-069		Date: 15-04-16	Page 1 of 10
<b>CUSTOMER DATA</b>				<b>INTERTEK DATA</b>	
Name:	TAN 		Intertek Project No.		41037-5
Address:	Kizilir No:8 Farilya is Merkezi / ANKARA		Client P.O./I.O. to Intertek:		TA20233/3506
Attn:	Afshin Maaf	Phone:	-		
E-Mail :	<a href="mailto:Afshin.M@ttis.com">Afshin.M@ttis.com</a>		Requisition No:		-
Copies to:	<a href="mailto:kaan.dor@ttis.com">kaan.dor@ttis.com</a> - Turkey MI				
<b>SUPPLIER/SUB-SUPPLIER DATA</b>				<b>INSPECTION INFORMATION</b>	
Inspection Performed: <input checked="" type="checkbox"/> With Customer Supplier <input type="checkbox"/> With Sub-Supplier				Date(s) of Visit(s):	
P.O. No:		Change No:	11 <sup>th</sup> to 15 <sup>th</sup> April 2016		
TNP-TPG-LVPC-CNT-001		05	Date of Previous Visit:		08 Apr 2016
WRP-REQ-PPL-PLG-005					
Supplier:	Valvitalia Spa		Date of Next Scheduled Visit:		18 Apr 2016
Supplier Job No:	VLT15-0071		P. O. Status:		<input type="checkbox"/> Complete <input checked="" type="checkbox"/> Incomplete
Location:	Via Tortona, 69 – 27055 Rivanazzano (Pv) - Italy		Project Name:		
Primary Contact:	Cristian Brignoli		Materials/Items Inspected:		
Phone:	+39 	E-mail :			
Sub-supplier:				Actuated Ball Valves	
Sub-Supplier Job No:					
Location:					
Primary Contact:					
Phone:				Pre-Inspection Meeting Summary Attached:	
E-mail :				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
				Summary Report Attached:	
				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>INSPECTION DISPOSITION:</b> <input checked="" type="checkbox"/> Accept <input type="checkbox"/> Nonconformance(s) Identified <input type="checkbox"/> Placed on Hold <input type="checkbox"/> Other (Explain)					
<b>INSPECTION SUMMARY AND CONCLUSION:</b>					
According to Assignment N. VLV-INS-002 and Inspection notification VLV-NOI-387 Inspection visits have been carried out at Valvitalia premises in Rivanazzano (Pv) on 11 <sup>th</sup> to 15 <sup>th</sup> April 2016 to attend test rings welding (Body to Closure welds of Ball valves size 48" and 18" Class 600) for subsequent CTOD Test.					
<b>Result: Satisfactory</b>					
<b>RECOMMENDED ACTION:</b>					
<b>INSPECTION TIME :</b>	<input type="checkbox"/> DAYS <input checked="" type="checkbox"/> HOURS	See TS	<b>TRAVEL HOURS :</b>	See TS	<b>DISTANCE:</b> <input type="checkbox"/> MI <input checked="" type="checkbox"/> KM 100x5
Technical Specialist:	R. 	Date:	15-04-16	Project Coordinator :	Mrs 
<i>This report is made solely on the basis of the Client's instructions and/or information and materials supplied. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions.</i>					

Title <b>Inspection Report Form</b>	Form Number <b>MI-1220-01</b>	Revision <b>C</b>	Date <b>June 3, 2014</b>	Instructions <b>SOP-1220</b>
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<b>SUMMARY REPORT</b>				

## 1.0 ATTENDEES

NAME	COMPANY REPRESENTED	TITLE
	EPCM / WP	Lead Inspector
	VALVITALIA	Welding Specialist
	VALVITALIA	Welding Department Responsible
	VALVITALIA	Tanap Project Quality Manager

## 2.0 MATERIALS

### 2.1 Generic Materials

TAG / EQUIP NO.	DESCRIPTION
N/A	Test Ring 48" Class 600 Welding (Ball Valve 48" Class 600 Body to closure welds) for CTOD test Test Ring 18" Class 600 Welding (Ball Valve 18" Class 600 Body to closure welds) for CTOD test

### 2.2 Materials Inspected

PO ITEM NO.	TAG / SERIAL NO.	PRODUCT / MATERIAL / ITEM NAME	ORDERER QUANTITY	PRESENTED THIS VISIT	ACCEPTED THIS VISIT	QUANTITY ACCEPTED TO DATE
N/A	N/A	Test Ring 48" Class 600 Welding (Ball Valve 48" Class 600 Body to closure welds) for CTOD test	1	1	1	1
N/A	N/A	Test Ring 18" Class 600 Welding (Ball Valve 18" Class 600 Body to closure welds) for CTOD test	1	1	1	1

## 3.0 DOCUMENTS USED

Form Title <b>Inspection Report Form</b>	Form Number <b>MI-1220-01</b>	Revision <b>C</b>	Revision Date <b>June 3, 2014</b>	Instructions <b>SOP-1220</b>
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## SUMMARY REPORT

DOCUMENT NO.	REVISION	TITLE	APPROVAL STATUS
WRP-SPC-PPL-PLG-050	P3-0	Specification For mainline valves	N/A
WRP-SHT-ICT-PLG-010	P3-0	Gas Over Oil Actuator Data Sheet	N/A
WRP-SHT-PPL-PLG-009	P3-1	Mainline Valve Data Sheet	N/A
VLV-PLN-QAC-GEN-002	P3-0	Inspection and Test Plan	C1
VLV-PCD-OPR-GEN-001	P3-4	Welding Book –Butt Weld Joints and Weld Overlay	C1
VLV-PCD-QAC-GEN-020	P3-3	VLV Ultrasonic Examination on Welds by Phased Array	C1
VLV-PCD-QAC-GEN-008	P3-2	VLV Functional Test Procedure	C1
VLV-PCD-QAC-GEN-007	P3-2	VLV Final Test Procedure for API 6D Valves	C1
VLV-DGA-PPL-PLG-006	P3-0	VLV Details drawing – Extension-Vent, Drain.... Below ground	Awaiting for Approval
VLV-DGA-PPL-PLG-023	P3-1	VLV General Arrangement Drawing Valve+Electric actuator (56")	C1
VLV-DGA-PPL-PLG-005	P3-0	VLV Details drawing, Vent & Drain.... Above ground	C1
VLV-DGA-PPL-PLG-007	P3-3	VLV Cross Sectional and dimensional drawing	C1
VLV-DGA-PPL-PLG-024	P3-1	VLV General Arrangement Drawing Valve+Gas over Oil actuator (56")	C1
VLV-PCD-QAC-GEN-012	P3-0	VLV Magnetic Particle Inspection procedure (Forging)	C1
VLV-PCD-QAC-GEN-018	P3-0	VLV Magnetic Particle Inspection procedure (Welds)	C1
VLV-PCD-QAC-GEN-016	P3-0	VLV Visual Examination procedure	C1
VLV-PLN-QAC-GEN-009-	P3-1	VLV Material Data Sheet	C4
VLV-MAN-QAC-GEN-004	P3-0	VLV Dispatch Dossier Index	C1
VLV-PCD-LGM-GEN-002	P3-1	VLV Equipment Preservation & Storage Before packing Procedure	C1
VLV-PCD-LGM-GEN-001	P3-3	VLV procedure for packing, storage and installation of valves	C1
VLV-PCD-QAC-GEN-003	P3-4	VLV Painting procedure for Valves	C1
VLV-PCD-QAC-GEN-004	P3-3	VLV Painting procedure for Actuators (Valvitalia)	C1
VLV-PCD-QAC-GEN-005	P3-0	VLV Painting procedure for Actuators (Emerson)	C1
VLV-PCD-QAC-GEN-006	P3-1	VLV Post Weld Heat Treatment Procedure Between Closure an Pups	C1
VLV-PLN-QAC-GEN-003	P3-0	VLV Inspection and Test Plan for Gas Over Oil Actuators	C1
VLV-PCD-QAC-GEN-009	P3-1	VLV Factory Acceptance Test Procedure for Gas Over Oil ActuatorS	C1
VLV-TDT-EGG-GEN-001	P3-0	VLV Automation Torque Table	C1
VLV-DGA-ICT-PLC-009	P3-1	VLV Overall Dimensional Drawing - Gas Over Oil Actuators for 56" NB Valves	C1
VLV-PCD-QAC-GEN-015	P3-0	VLV Penetrant Inspection procedure	C1
VLV-DSC-ICT-PLG-003	P3-2	VLV Automation Schematic Diagram for Gas Over Oil Actuator	C1
VLV-DWD-ICT-PLG-002	P3-2	VLV Automation Wiring Diagram for Gas Over Oil Actuator	C1
VLV-LST-ICT-PLG-002	P3-0	VLV Automation Summary Table	C1

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### SUMMARY REPORT

DOCUMENT NO.	REVISION	TITLE	APPROVAL STATUS
VLV-LST-EGG-GEN-004	P3-2	VLV Automation Tag List – Gas Over Oil actuator	C1
VLV-DID-OPR-GEN-004	P3-2	VLV Automation Name Plate – Gas Over Oil actuator	C1
VLV-DID-OPR-GEN-001	P3-0	VLV Automation Name Plate – Valves	C1
VLV-DGA-PPL-PLG-029	P3-0	VLV TOP Mounting – Gas Over Oil actuator	For info
VLV-DGA-PPL-PLG-039	P3-0	VLV TEST RING Drawing 56" Class600 – Asme B31.3	C1
VLV-CAL-EGG-GEN-007	P3-0	VLV ECA Method statement – Closure to body weld	C1
VLV-DWD-ELE-GEN-002	P3-0	Emerson wiring diagram -Tanap 4-20 mA	C1
VLV-DWD-ELE-GEN-001	P3-0	Emerson wiring diagram -Tanap PL	C1
VLV-PCD-QAC-GEN-005	P3-0	Emerson Powder Coating System	C1
VLV-TDT-ELE-GEN-002	P3-1	Instrument Calculation (Actuator) Emerson alculuation table-Electric Actuators for Valves 18", 36", 48", 56"	C1

#### 4.0 SCOPE OF INSPECTION

ITP LINE NO.	ITP ACTIVITY DESCRIPTION	ITEMS	RESULTS	CLAUSE
VLV ITP for Ball Valves (Doc.N. VLV-PLN-QAC-GEN-002)				
-	Test Rings 48" Class 600 Welding (Ball Valve 348" Class 600 Body to closure welds) for CTOD test	ALL	Test Ring Welding completed, Awaiting CTOD test Results	6.0
-	Test Rings 18" Class 600 Welding (Ball Valve 18" Class 600 Body to closure welds) for CTOD test	ALL	Test Ring Welding completed, Awaiting CTOD test Results	6.0

#### 5.0 EQUIPMENT AND INSTRUMENTATION USED (TO BE SUPPLIED BY SUPPLIER)

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### SUMMARY REPORT

EQUIPMENT / INSTRUMENT DESCRIPTION	SERIAL NO	CALIBRATION CERT. NO.	EXPIRY DATE
Welder SAW Machine Type ESAB LAE 1000	Id. S49	S49	October 2016
Digital Thermometer DeltaOhm HD2328	Id. TK532	TK532	June 2016

## 6.0 INSPECTION DETAILS

6.1 According to Assignment N. VLV-INS-002 and Inspection notification VLV-NOI-387 Inspection visits have been carried out at Valvitalia premises in Rivanazzano (Pv) on 11<sup>th</sup> to 15<sup>th</sup> April 2016 to attend test rings welding (Body to Closure welds of Ball valves size 48" and 18" Class 600) for subsequent CTOD Test.

Inspection was carried out as below detailed as required by approved Itp, Drawings, procedures and applicable Specification.

### ***Details:***

### **ACTIVITIES WITNESSED AT VALVITALIA**

#### **Test Rings WELDING for Body-closures Joint 48" Class 600 Ball valves for CTOD TEST:**

**Base material ID:** (Ring Body side) A350 LF2 heat 152367 – (Ring Closures side) ASTM A694 F52 heat 030891

**Process Sequence:** SAW

**Position:** 1G -Rotated

**Welding Equipment:** Welding Machine ESAB LAE 1000 Id. S49 (Calibration expire date: October 2016)

**Consumables materials ID:** **Filler** OERLIKON Type Aws AS.23-EG OE-SD3 1Ni 1/4Mo wire 3.2 Lot Number 3415 OAL060; **Flux** OERLIKON Type OP 121TT/W Lot Number 01840292.

**Operator Id:** V.14 (Mr. D'Artavilla Lupo Andrea); V.07 (Mr. Percivalle Davide).

**Applicable Wps:** WPS N. 0H71/15.31 Rev.0.

**Activities Status:** Activity started and completed on 11<sup>th</sup> April 2016; available for further NDT Examination.

The above listed Welding process were performed by qualified operators (see attached the relevant Welding Operators qualification and Operating Continuity as part of endorsed "Welding Report Package").

Welders, base materials, filler metal and flux were checked against the approved WPS.

Offered pieces were duly identified according to Valvitalia internal traceability procedure.

Welder machines were found under valid calibration status.

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## SUMMARY REPORT

Before to start with 1<sup>st</sup> layer, base material was duly heated at required temperature, according to approved WPS.

Filler metals and flux used were conform to WPS requirement and related Lot number recorded to be checked against relevant certificates.

The below listed welding parameters were checked during each process against approved WPS:

- **Pre heat temperature:** Min 95°C
  - **Interpass temperature:** Max 190 °C
  - **Volts:** 1<sup>st</sup> – n layers 27-28 ; n+1 to y Layers 27-28 for WPS N°:0H71/15.31.
  - **Ampere:** 1<sup>st</sup> – n layers 420-430 ; n+1 to y Layers 420-430 for WPS N°:0H71/15.31.
  - **Travel speed (mm/min):** 1<sup>st</sup>–n layers 455-500; n+1 to y Layers 455-500 for WPS N°:0H71/15.31.
- (During each weld layer the relevant welding table has been filled with all the relevant parameters

At the end of welding activities, a Visual examination test were carried out on each finished weld in order to check the absence of ripples, grooves, overlaps, abrupt ridges or valleys.

Welding Tables with relevant attachments (base materials certificates, welding consumable certificates, Welding machines calibration certificates, Operator welding qualification) were offered at the end of the process, undersigned, stamped by inspector and attached to this report.

**Result: Satisfactory**

### Test Rings WELDING for Body-closures Joint 18" Class 600 Ball valves for CTOD TEST:

**Base material ID:** (Ring Body side) A350 LF2 heat 428793 – (Ring Closures side) ASTM A694 F52 heat 97076

**Process Sequence:** SAW

**Position:** 1G -Rotated

**Welding Equipment:** Welding Machine ESAB LAE 1000 Id. S49 (Calibration expire date: October 2016)

**Consumables materials ID:** **Filler** OERLIKON Type Aws AS.23-EG OE-SD3 1Ni 1/4Mo wire 3.2 Lot Number 3415 OAL060; **Flux** OERLIKON Type OP 121TT/W Lot Number 01840292.

**Operator Id:** V.08 (Mr. Urrata Matteo).

**Applicable Wps:** WPS N. 0H71/15.31 Rev.0.

**Activities Status:** Activity started and completed on 14<sup>th</sup> April 2016; available for further NDT Examination.

The above listed Welding process were performed by qualified operators (see attached the relevant Welding Operators qualification and Operating Continuity as part of endorsed "Welding Report Package").

Welders, base materials, filler metal and flux were checked against the approved WPS.

Offered pieces were duly identified according to Valvitalia internal traceability procedure.

Welder machines were found under valid calibration status.

Before to start with 1<sup>st</sup> layer, base material was duly heated at required temperature, according to approved WPS.



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### SUMMARY REPORT

Filler metals and flux used were conform to WPS requirement and related Lot number recorded to be checked against relevant certificates.

The below listed welding parameters were checked during each process against approved WPS:

- **Pre heat temperature:** Min 95°C
- **Interpass temperature:** Max 190 °C
- **Volts:** 1<sup>st</sup> – n layers 27-28 ; n+1 to y Layers 27-28 for WPS N°:0H71/15.31.
- **Ampere:** 1<sup>st</sup> – n layers 420-430 ; n+1 to y Layers 420-430 for WPS N°:0H71/15.31.
- **Travel speed (mm/min):** 1<sup>st</sup>–n layers 455-500; n+1 to y Layers 455-500 for WPS N°:0H71/15.31.  
(During each weld layer the relevant welding table has been filled with all the relevant parameters)

At the end of welding activities, a Visual examination test were carried out on each finished weld in order to check the absence of ripples, grooves, overlaps, abrupt ridges or valleys.

Welding Tables with relevant attachments (base materials certificates, welding consumable certificates, Welding machines calibration certificates, Operator welding qualification) were offered at the end of the process, undersigned, stamped by inspector and attached to this report.

**Result: Satisfactory**

## 7.0 NON-CONFORMANCES

NCR #	DESCRIPTION	DATE RAISED	DATE CLOSED
01 (RNC1500157)	Failed impact test at -46°C during PQR for welds between valves body and closures.	26/10/2015	07/03/2016 (EXPECTED DATE)
02 (RNC1600005)	During MPI some superficial and volumetric defects have been detected on closures external surfaces (N.2 Closures 56" CI.600 ITEM 59)	21/01/2016	Open

## 8.0 ATTACHMENTS TO THIS REPORT

-Welding Report Package Test Ring 48" Valvitalia Body to Closures welding according to WPS N.0H71/15.31 for CTOD

-Welding Report Package Test Ring 18" Valvitalia Body to Closures welding according to WPS N.0H71/15.31 for CTOD

## 9.0 PHOTOGRAPHS

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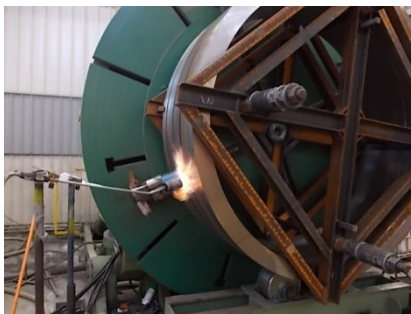
Date of Report: 15-04-2016

Customer : EPCM / WP

## SUMMARY REPORT

### TEST RING 48"

Preheat details (48")



Preheat temperature check



Marking details (Body Side)



Marking details Closure Side)



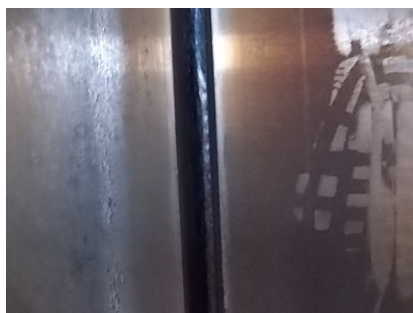
welding details



Welding parameters details



in progress Weld layers details



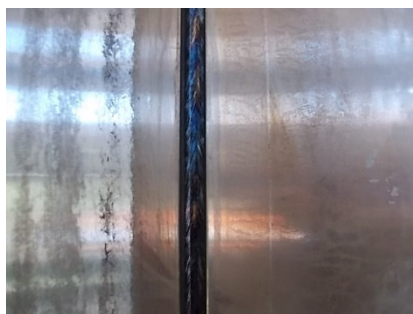
in progress Weld layers details



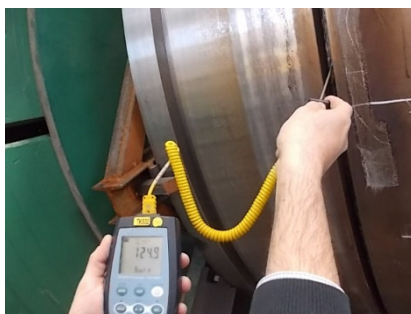
welding details



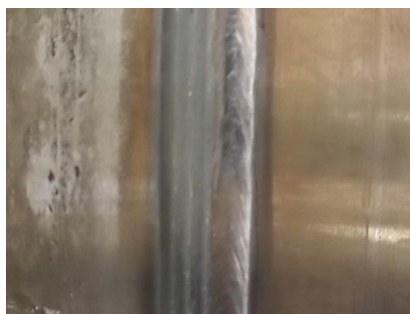
in progress Weld layers details



Interpass temperature check



Welds Completed details





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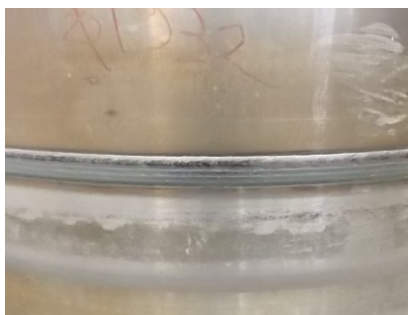
Report No: 69

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Customer : EPCM / WP

## SUMMARY REPORT

Test ring 48" welded details



### TEST RING 18"

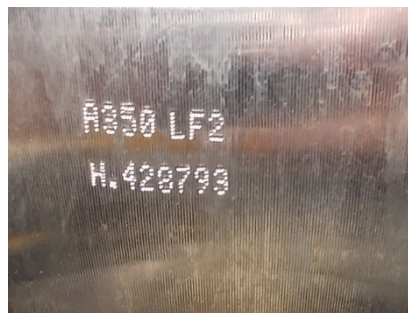
Preheat details (18")



Preheat temperature check



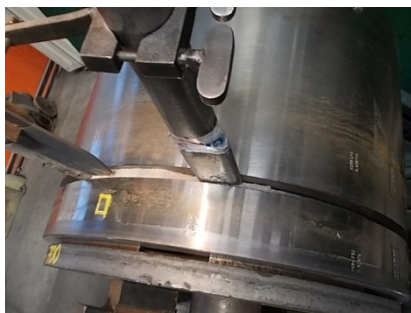
Marking details (Body Side)



Marking details Closure Side)



welding details



Welding parameters details



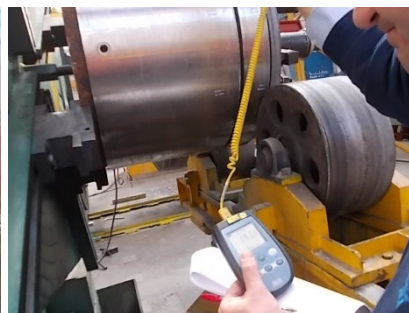
in progress Weld layers details



in progress Weld layers details

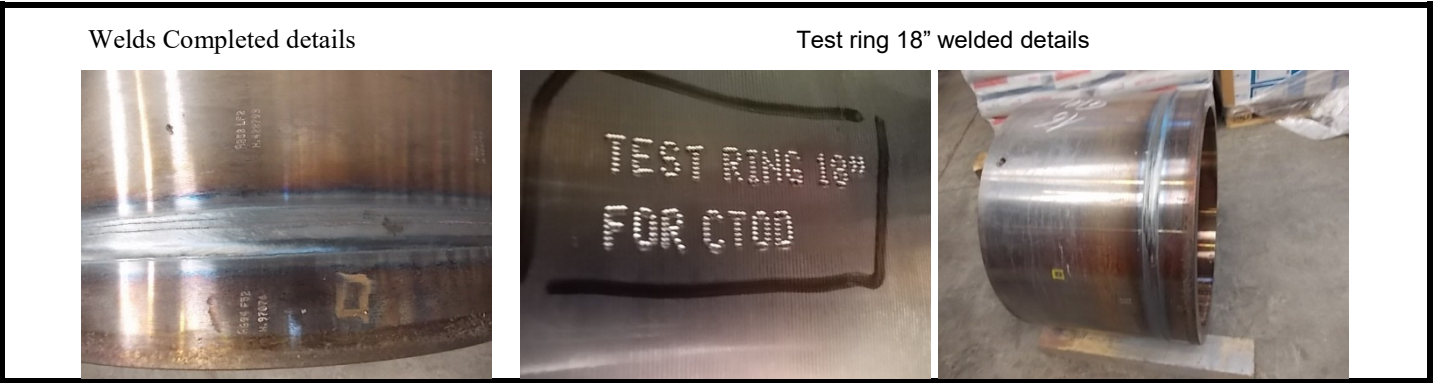


Interpass temperature check





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<b>SUMMARY REPORT</b>				



**HSE:**

All activities associated with the work, including storage, handling, manufacturing were in accordance with HSSE rules pertaining to the work. No harm or potential disruption to the environment took place as a consequence of any production. Work area was suitable for activity to be performed and meets safety expectations. VALVITALIA personnel wear properly PPE's: safety glasses, safety shoes, ear plugs, hard hat, and gloves. Furthermore the writer verified that:

- Supplier maintained lifesaving, evacuation way, rescue and medical equipment in good working order.
- Supplier maintained barriers and other safety devices to minimize hazards during performance of the work;
- Slings and chains used for material handling were found duly identified by in use color code and in good state.
- Possess and maintain a written emergency plan applicable to the work areas.

PPE: Safety shoes and glasses are required inside the supplier's testing area.  
 Emergency plan: Emergency plan is clearly showed in several parts of the workshop.  
 Emergency ways: Emergency ways are clearly indicated and free from materials.  
 Accidents: No accident or personal injuries happen during the visit.

END OF THIS REPORT



☐ Reviewed  
☒ Witnessed  
 Initial: *Rafael Toulon*  
 Date:  
 IT - 0242

15 April 2016