


WELDING PROCEDURE APPROVAL TEST CERTIFICATE

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2		
3	Manufacturer's Welding Procedure	Inspecting Authority ZC/WP/110048
4	Reference No WP4	Reference No. SS42526723/5
5	Manufacturer: VARLOWE INDUSTRIAL SERVICES LTD	
6	Address: UNIT 16 REFLEX BUSINESS PARK WEDNESFIELD ROAD WILLENHALL WV131AH	
7	Code / Testing Standard:	BS EN ISO 15614-1:2004 A1 2008
8	Date of Welding:	21/12/2010
9	RANGE OF QUALIFICATION	
10	Welding Process:	MANUAL TIG(141)
11	Joint Type:	FILLET WELD
12	Parent Metal Groups /Sub Groups:	1.1,11.1 Re<=240N/mm ² (PIPE) <=250N/mm ² (FLANGE)
13	Parent Metal Thickness (mm):	PIPE:-1.94mm-5.54mm FLANGE:-11.2mm-26.88mm
	Weld Metal Thickness (mm):	NOT APPLICABLE
	Throat Thickness (mm):	INSIDE:-1.45mm-2.90mm OUTSIDE:-NO RESTRICTION
	Single run / Multi run:	INSIDE:-SINGLE RUN OUTSIDE:-MULTI RUN
14	Pipe Outside Diameter (mm):	10.65mm-42.6mm
15	Filler Metal Type / Designation:	EN 1668 W3 Si1
	Filler Material Make:	NO RESTRICTION
	Filler Material Size:	SEE 8.4.6
16	Designation of Gas / Flux:	ARGON 99.99% EN ISO 14175 I1
	Designation of Backing Gas:	NOT APPLICABLE
17	Type of Welding Current / Polarity:	DC-VE
	Mode of Metal Transfer:	NOT APPLICABLE
	Heat Input:	+/-25% RECORDED VALUES
18	Welding Position(s):	FLAT, HORIZONTAL, VERTICAL UP
19	Preheat Temperature:	5° C MIN
	Post-Heating:	NONE
20	Post Weld Heat Treatment:	NONE
21	OTHER INFORMATION	SEE BS EN ISO 15614-1:2004 A1 2008

22 Certified that test welds were prepared, welded and tested satisfactorily in accordance with the requirements of the code / testing standard indicated above.

23 Location: BIRMINGHAM Date of Issue: 17/01/2011

Name and Signature

 C DUFFELL
 Inspecting Authority
 SAFed/CEOC Member Company
 (CEOC Member Organization)
 ZURICH ENGINEERING LABORATORY SERVICES
 201 Great Bridge Street
 West Bromwich B70 0DE
 Telephone: 0121 586 5868
 Fax: 0121 586 5869

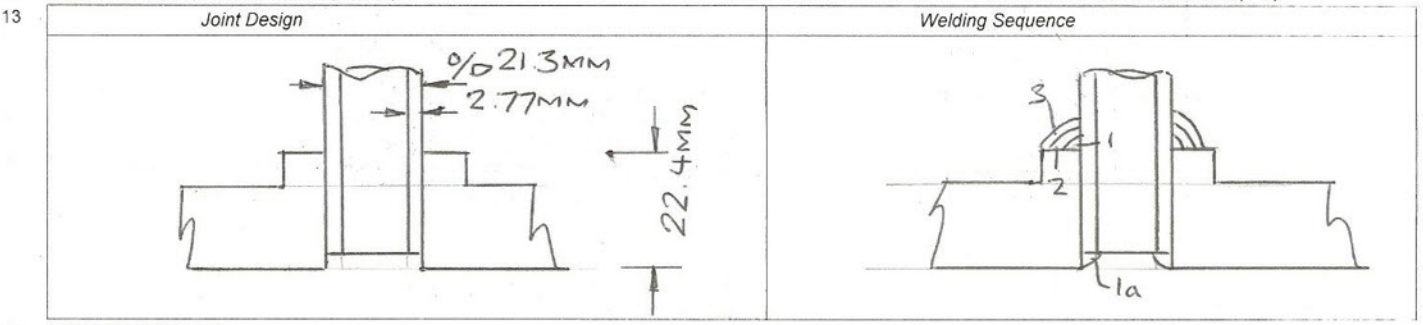
Übersetzung des vorgedruckten
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DETAILS OF WELD TEST

1
2
3 *Manufacturer's Welding Procedure* Inspecting Authority ZC/WP/110048
4 *Reference No.* WP4 Reference No. SS42526723/5
5 *Manufacturer:* VARLOWE INDUSTRIAL SERVICES LTD *Date of Welding:* 21/12/2010
6 *Address:* UNIT 16 REFLEX BUSINESS PARK *Location:* WORKSHOP
 WEDNESFIELD ROAD
7 *Welder's Name:* P HAWKINS *Method of Preparation and Cleaning:* GRIND
8 *Welding Process:* MANUAL TIG(141) *Parent Metal Specification:* ASTM A333 GD6
9 *Joint Type:* FILLET WELD PIPE TO FLANGE *Parent Metal Thickness(mm):* PIPE:-2.77mm FLANGE:-22.4mm
10 *WELD PREPARATION DETAILS (Sketch)* *Pipe Outside Diameter(mm):* 21.3mm
11 *Test Piece / Welding Position:* HORIZONTAL VERTICAL(PB)



14 **WELDING DETAILS**

Run	Process	Size of Filler Metal	Current A	Voltage V	Type of Current and Polarity	Wire Feed / Travel Speed *	Heat Input *
1	TIG(141)	NONE	125	10-11	DC-VE	-2.1mm/S	0.38KJ/mm
2-3	TIG(141)	1.6mm	110	9-10	DC-VE	MANUAL/1.1mm/S	0.54KJ/mm
1a	TIG(141)	1.6mm	120	10-11	DC-VE	MANUAL/1.2mm/S	0.60KJ/mm

16 *Filler Metal:*
17 *Type, Designation, Trade Name:* FILARC PZ6500 EN 1668 W3 Si4
18 *Any Special Baking or Drying:* DRY STORAGE
19 *Gas / Flux:* ARGON 99.99% EN ISO 14175 I1
20 *Gas Flow Rate - Shield:* 10 LPM
21 *Backing:* N/A
22 *Tungsten Electrode Type / Size:* 2% THORIATED 2.4mm DIA
23 *Details of Back Gouging / Backing:* N/A
24 *Preheat Temperature:* 5° C MIN
25 *Interpass Temperature:* 250° C MAX

26 **POST WELD HEAT TREATMENT** NONE
27 *Time, Temperature, Method:*
28 *Heating and Cooling Rates *:*

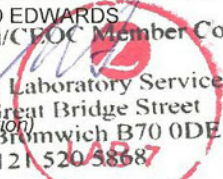
29 *The above test piece was welded in the presence of:* C DUFFELL
 ZURICH ENGINEERING



OTHER INFORMATION

ZURICH
Name and Signature A D EDWARDS
SAFed/CEOC Member Company

Inspecting Authority Zurich Laboratory Services
(CEOC Member Organization) 504, Great Bridge Street
West Bromwich B70 0DE
ZURICH ENGINEERING TEL: 0121 520 3868



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TEST RESULTS

1
2
3 *Manufacturer's Welding Procedure:*
4 *Reference No.* WP4
5 *Visual Examination:* ACCEPTABLE
6 *Penetrant Test ** ACCEPTABLE
7 *Tensile Tests:* NOT APPLICABLE

Inspecting Authority ZC/WP/110048
Reference No. SS42526723/5
*Radiography *:* NOT APPLICABLE
Ultrasonic Examination:* NOT APPLICABLE
Temperature.

Type / No.	Re N/mm ²	Rm N/mm ²	A %on	Z%	Fracture Location	Remarks
Requirement						

10 *Bend Tests:* NOT APPLICABLE *Former Diameter:*

Type No.	Bend Angle	Elongation	Result

*Fillet Fracture Test *:* NOT APPLICABLE
(X2) ACC EN 1321

13 *IMPACT TESTS *:* NOT APPLICABLE *Type:* *Size:* *Requirement:*

Notch Location / Direction	Temp. °C	Values	Average	Remarks

15 *HARDNESS TESTS *:* EN ISO 148/ISO 6507-1

16 *Type / Load* VICKERS 10 KG
17 *Values - Parent Metal* 150-159
18 *- H.A.Z.* 150-224
19 *- Weld Metal* 219-232

20 *OTHER TESTS* NONE

21 *REMARKS* FOR MACROPHOTOGRAPH SEE ADDENDUM 1

22 *Tests carried out in accordance with the requirements of:* BS EN ISO 15614-1:2004 A1 2008

23 *Laboratory Report Reference No* SS42526723/5

24 *Test Results Were* ACCEPTABLE

25 *Test carried out in the presence of:* A D EDWARDS
ZURICH ENGINEERING

27

ZURICH
SAFed/CEOC Member Company
Name and Signature C DUFFELL
Zurich Laboratory Services
204, Great Bridge Street
West Bromwich B70 0DE
Inspecting Authority (CEOC Member Organisation) 21 520 5868
ZURICH ENGINEERING

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LABORATORY SERVICES REPORT

Date of Receipt: 21/12/2010

Our Ref. SS42526723/4 ADD 1

Client Ref.

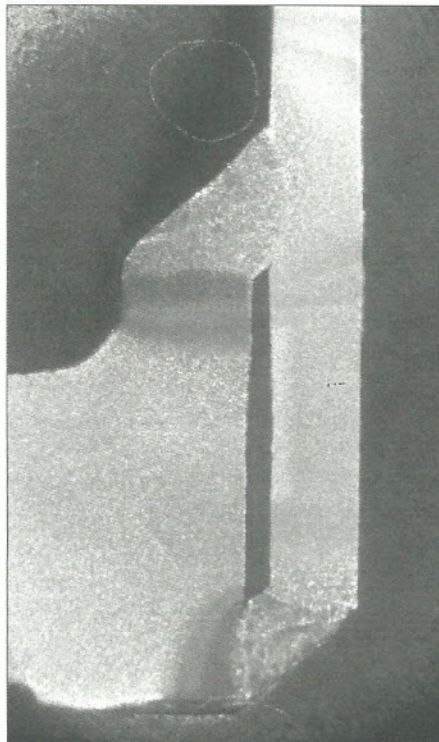
Report No. LSR110178

Manufacturers Name VARLOWE INDUSTRIAL SERVICES LTD
and Address UNIT 16 REFLEX BUSINESS PARK
WEDNESFIELD ROAD

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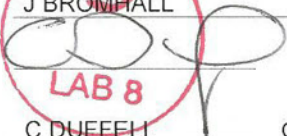
WILLENHALL
WV131AH

WELD PROCEDURE REF:- WP4
MACRO PHOTOGRAPH



Tested By J BROMHALL

Date 06/01/2011

Signature 

Position WELDING ENGINEER

Date 24/01/2011

Signatory C DUFFELL

For Zurich Laboratory Services.
Certified that the tests have been carried out in accordance with client instructions and
the quality requirements of Zurich Laboratory Services.

Laboratory services, 204 Great Bridge Street, West Bromwich B70 0DE.
Telephone: 0121 520 5868 Fax: 0121 520 5863

Zurich Management Services Limited, Registered in England no. 2741053.

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