

WELDING PROCEDURE APPROVAL TEST CERTIFICATE

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3 *Manufacturer's Welding Procedure*
4 *Reference No* WP6
5 *Manufacturer:* VARLOWE INDUSTRIAL SERVICES LTD
6 *Address:* UNIT 16 REFLEX BUSINESS PARK
WEDNESFIELD ROAD

Inspecting Authority ZC/NWP/110058
Reference No. SS42526723/7

WILLENHALL
WV131AH

7 *Code / Testing Standard:* BS EN ISO 15614-1:2004 A1 2008
8 *Date of Welding:* 05/01/2011
9 **RANGE OF QUALIFICATION**
10 *Welding Process:* MMA (111)
11 *Joint Type:* FILLET WELD
12 *Parent Metal Groups Sub Groups:* 1.1, 11.1 Re<=240N/mm² (PIPE) <=250N/mm² (FLANGE)
13 *Parent Metal Thickness (mm):* PIPE:- 3mm - 4.7mm FLANGE:- >=5mm
Weld Metal Thickness (mm): NOT APPLICABLE
Throat Thickness (mm): INSIDE:- 2.05mm - 4.1mm OUTSIDE:- 3.15mm - 6.3mm
Single run / Multi run: SINGLE RUN
14 *Pipe Outside Diameter (mm):* >=30.15mm
15 *Filler Metal Type / Designation:* EN ISO 2560A E515B
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
Organization
ZURICH ENGINEERING Laboratory Services
147 Bridge Street
West Bromwich B70 0DE
Tel: 0121 321 2222

Übersetzung des vorgedruckten
Formblatt-Textes auf der Rückseite

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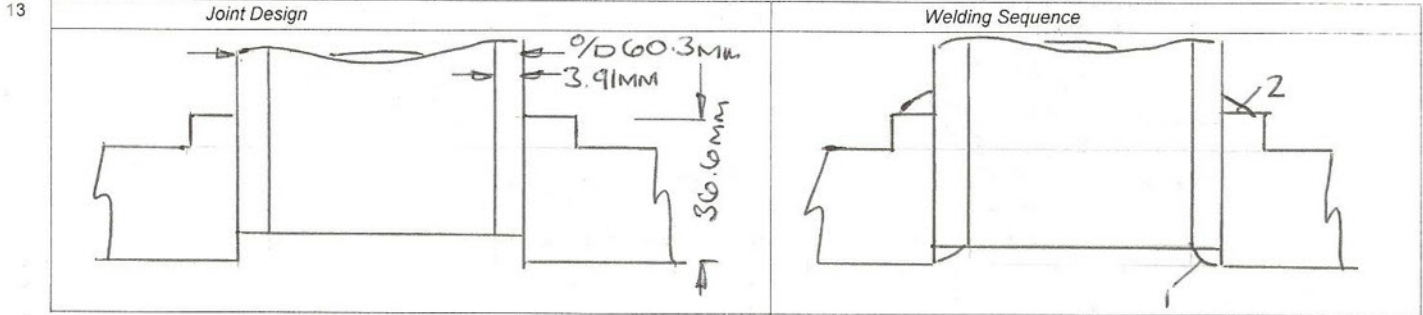
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This qualification is not a Standard Welding Procedure and may not be reproduced in whole or part and used as such.*

DETAILS OF WELD TEST

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3 *Manufacturer's Welding Procedure*
4 *Reference No.* WP6 *Inspecting Authority Reference No.* ZC/WP/110058
5 *Manufacturer:* VARLOWE INDUSTRIAL SERVICES LTD *Date of Welding:* 05/01/2011
6 *Address:* UNIT 16 REFLEX BUSINESS PARK *Location:* WORKSHOP
WEDNESFIELD ROAD

7 *Welder's Name:* P HAWKINS *Method of Preparation and Cleaning:* GRIND
8
9 *Parent Metal Specification:* ASTM A333 GD6
ASTM A350 LF2

10 *Welding Process:* MMA (111) *Parent Metal Thickness(mm):* PIPE:- 3.91mm FLANGE:- 36.6mm
11 *Joint Type:* FILLET WELD PIPE TO FLANGE *Pipe Outside Diameter(mm):* 60.3mm
12 *WELD PREPARATION DETAILS (Sketch)* *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	MMA (111)	2.5mm	80-90	21-24	DC+ve	- / 2.5mm/S	0.54KJ/mm
2	MMA (111)	4.0mm	140-150	23-26	DC+ve	- / 3.5mm/S	0.74KJ/mm EN 1011

16 *Filler Metal:*
17 *Type, Designation, Trade Name:* FILARC 56S EN ISO 2560-A E515 B12 H5
18 *Any Special Baking or Drying:* FROM VACCUM PACK
19 *Gas / Flux:* BASIC FLUX
20 *Gas Flow Rate - Shield:* N/A
21 *Backing:* N/A
22 *Tungsten Electrode Type / Size:* N/A
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**

27 *Time, Temperature, Method:* N/A
28 *Heating and Cooling Rates *:* N/A

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

OTHER INFORMATION

Name and Signature

ZURICH
A D EDWARDS
SAFed/CEOC Member Company

Inspecting Authority Zurich Laboratory Services
(CEOC Member Organization) 204, Great Bridge Street
West Bromwich B70 0DE
ZURICH ENGINEERING
Tel: 0121 520 5868

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TEST RESULTS

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Manufacturer's Welding Procedure:

Reference No. WP6

Visual Examination: ACCEPTABLE

Penetrant Test * ACCEPTABLE

Tensile Tests :

Inspecting Authority ZC/WP/110058

Reference No. SS42526723/7

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						
NOT APPLICABLE						

Bend Tests:

Former Diameter:

Type No.	Bend Angle	Elongation	Result
NOT APPLICABLE			

Fillet Fracture Test * : NOT APPLICABLE

Macro Examination : (X2) ACC EN1321

IMPACT TESTS *:

Type :

Size :

Requirement :

Notch Location / Direction	Temp. °C	Values	Average	Remarks
NOT APPLICABLE				

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

Type / Load VICKERS 10Kg

Values - Parent Metal 169-189

- H.A.Z. 180-339

- Weld Metal 193-242

OTHER TESTS NONE

REMARKS FOR MACRO PHOTOGRAPH SEE ADDENDUM 1

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

Laboratory Report Reference No SS42526723/7

Test Results Were ACCEPTABLE

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

ZURICH

Name and Signature SAFed/CEOC Member Company
C DUFFELL

Zurich Laboratory Services
204, Great Bridge Street
West Bromwich B70 0DE
Tel: 0121 520 5868

Inspecting Authority
(CEOC Member Organisation)
ZURICH ENGINEERING

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LABORATORY SERVICES REPORT

Date of Receipt: 05/01/2011

Our Ref. SS42526723/6 ADD 1

Client Ref.

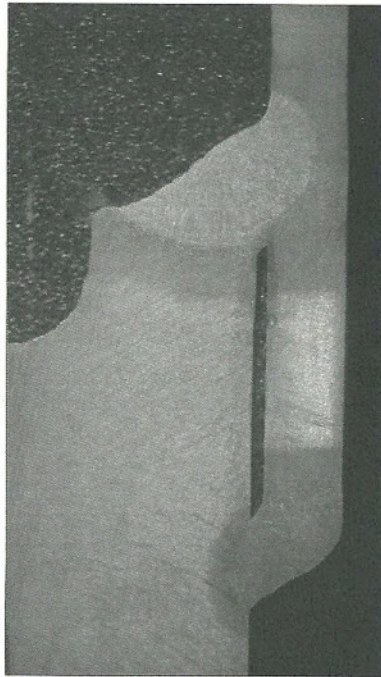
Report No. LSR110180

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

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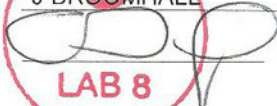
WILLENHALL
WV131AH

WELD PROCEDURE REF:- WP6
MACRO PHOTOGRAPH



Tested By J BROOMHALL

Date 07/01/2011

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

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