

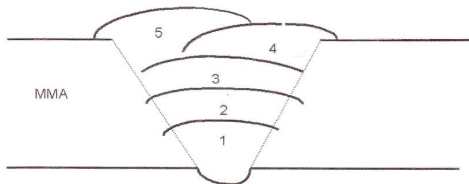
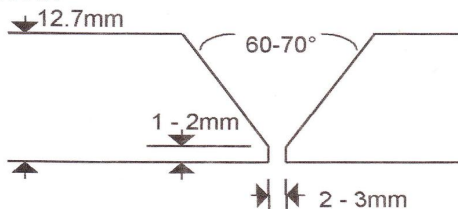
WELDING PROCEDURE SPECIFICATION

COMPANY NAME: WELDING & STEEL FABRICATION Ltd.

SUPPORTING PQR No.: WSF 01

WPS No. : WSF 01

JOINTS:



GROOVE DESIGN

PASS LOCATION & SEQUENCE

JOINT TYPE : SINGLE VEE BUTT JOINT

WELDING PROCESS

Root

Rest

BASE METAL Carbon Steel Pipe

Process :

MMA

MMA

Spec & Grade API – 5L Gd B

to Spec & Grade : API – 5L Gd B

FILLER METAL

Root

Rest

Thickness : 12.7mm | **Diameter :** 219.1mm OD

AWS Class :

E7018-1

E7018-1

BACKING STRIP

Trade Name :

HILCO
BASIC SUPER

HILCO
BASIC SUPER

Metallic Type : N/A

Non Metallic Type : N/A

Electrode Size : (mm)

2.5

2.5/3.2

PREHEAT

Baking Treatment:

VACUUM PACKED OR BAKED
AT 350°C FOR 2 HOURS

Preheat Temp. (Min) : 20°C above ambient

Interpass Temp. (Max) : 420°C

ELECTRICAL DATA

Root

Rest

Preheat Maintenance : 20°C above ambient

Current :

AC

AC

POST WELD HEAT TREATMENT

Polarity :

N/A

N/A

Heating Rate : N/A

Amps :

100-110

110-130

Soaking Temp. : N/A

Volts :

OCV > 65V

OCV > 65V

Soaking Time : N/A

Tungsten Rod Size:

N/A

N/A

Cooling Rate : N/A

Type:

N/A

N/A

NON DESTRUCTIVE TESTING

GAS

Root

Rest

Before Welding : N/A

Type of Gas/es

N/A

N/A

After Welding : MPI & RADIOGRAPHY

Flow Rate

N/A

N/A

POSITION

Purging:

N/A

N/A

Groove Position : AWS 6G

TECHNIQUE

Root

Rest

Fillet Position : N/A

String / Weave

SLIGHT WEAVE

Weld Progression : UPHILL

Travel Speed

N/A

N/A

EXTENT OF APPROVAL

Wire Feed Speed

N/A

N/A

Range of Material : P / S No. 1 MATERIALS

Cleaning :

Chipping & wire brushing

Range of Thickness : 4.7mm to 25.4mm

Back Gauging :

N/A

N/A

Range of Diameters: N/A

Peening

N/A

N/A

EXAMINING BODY
DET NORSKE VERITAS

MANUFACTURER
WELDING & STEEL FABRICATION

DATE: 05/DEC/2001

Ing. P. D. CARDONA (Surveyor – Malta)

J. ABDILLA

WELDING PROCEDURE QUALIFICATION

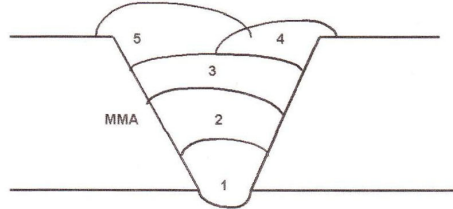
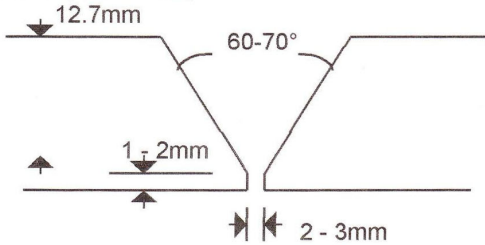
COMPANY NAME: WELDING & STEEL FABRICATION Ltd.

Supporting PQR No. **WSF 01**

WPS No. **WSF 01**

WELDING PROCESS(ES)
 Root : MMA (Manual)
 Rest : MMA (Manual)

JOINTS (QW - 402)



Backing Material Type

Metallic : N/A
Non-Metallic : N/A

BASE METALS (QW - 403) Carbon Steel Pipe

Specification Type & Grade : API - 5L Gd B

To Specification Type & Grade: API - 5L Gd B

P / S No.

Group No.

1

1

1

1

Thickness : 12.7mm

Diameter : 219.1mm OD

FILLER MATERIAL (QW - 404)

Root

Rest

SFA Spec. No.

A 5.1

A 5.1

AWS - No.

E7018-1

E7018-1

F - No.

4

4

A - No.

1

1

Elect - Flux

BASIC

BASIC

Size of Elec.

2.5mm

2.5/3.2mm

Other

N/A

N/A

POSITION (QW - 405)

Groove Position : AWS 6G

Fillet Position : N/A

Weld Progression : Up / Down Hill : Up Hill

PREHEAT (QW - 406)

Preheat Temp (Min) : 20°C above ambient

Interpass Temp (Max) : 420°C

Preheat Maintenance : 20°C above ambient

POSTWELD HEAT TREATMENT (QW - 407)

Heating Rate : N/A

Soaking Temp : N/A

Soaking Time : N/A

Cooling Rate : N/A

EXAMINING BODY

MANUFACTURER

GAS (QW - 408)

Type of Gas/es

N/A

Root & Rest

N/A

Flow Rate

N/A

N/A

Purging

N/A

N/A

ELECTRICAL DATA (QW - 409)

Current

AC

AC

Polarity

N/A

N/A

Amps

100 ~ 110

110 ~ 130

Volts

OCV > 65V

OCV > 65V

Tungsten

Size

N/A

N/A

Electrode

Type

N/A

N/A

TECHNIQUE (QW - 410)

String / Weave

Slight weave

Travel speed

N/A

Multiple / Single

N/A

Electrode

Multiple / Single

Multiple

Pass (per side)

Back Gouging

N/A

Method of

Cleaning

Chipping / grinding /
wire brushing

Peening

N/A

SHEET 1 of 2

DATE: 27/DEC/2001

1864
MALTA

WELDING PROCEDURE QUALIFICATION

TEST RESULTS

NON-DESTRUCTIVE EXAMINATIONS

(State 'Satisfactory' / 'Unsatisfactory' / 'None')

VISUAL	MPI	DPI	RADIOGRAPHY	ULTRASONICS
SATISFACTORY	SATISFACTORY	NONE	SATISFACTORY	NONE

DESTRUCTIVE TESTING TENSILE (QW - 150)

(State Type 'Transverse' / 'Longitudinal' / 'All Metal Weld')

Spec. No.	Type	UTS (N/mm ²)	YS (N/mm ²)	% Elong	Location of Fracture
1T	TRANS.	497	N/A	N/A	PARENT METAL
2T	TRANS.	497	N/A	N/A	PARENT METAL
/	/	/	/	/	/
/	/	/	/	/	/

GUIDED BEND TESTS (QW - 160)

Spec. No.	Face	Root	Side
3T	N/A	SATISFACTORY	N/A
4T	N/A	SATISFACTORY	N/A
5T	SATISFACTORY	N/A	N/A
6T	SATISFACTORY	N/A	N/A

FILLET WELD FRACTURE

N/A

MACRO EXAMINATION

N/A

ADDITIONAL TESTS ('Toughness' / 'Hardness' / etc.)

None

REMARKS

None

WELDERS IDENTITY or CODE No.:

ZAMMIT P. I.D. No. 259161

LABORATORY TEST No.:

004/01 & 005/01

We certify that the statements in this record are correct and the Test Welds were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Code.

Manufacturer : WELDING & STEEL
FABRICATION Ltd.

Classification Society:

Stamp



By : J. ABDILLA

Date : 27 / December / 2001

By : Ing. P. D. CARDONA DNV Surveyor

Date : 27 / December / 2001