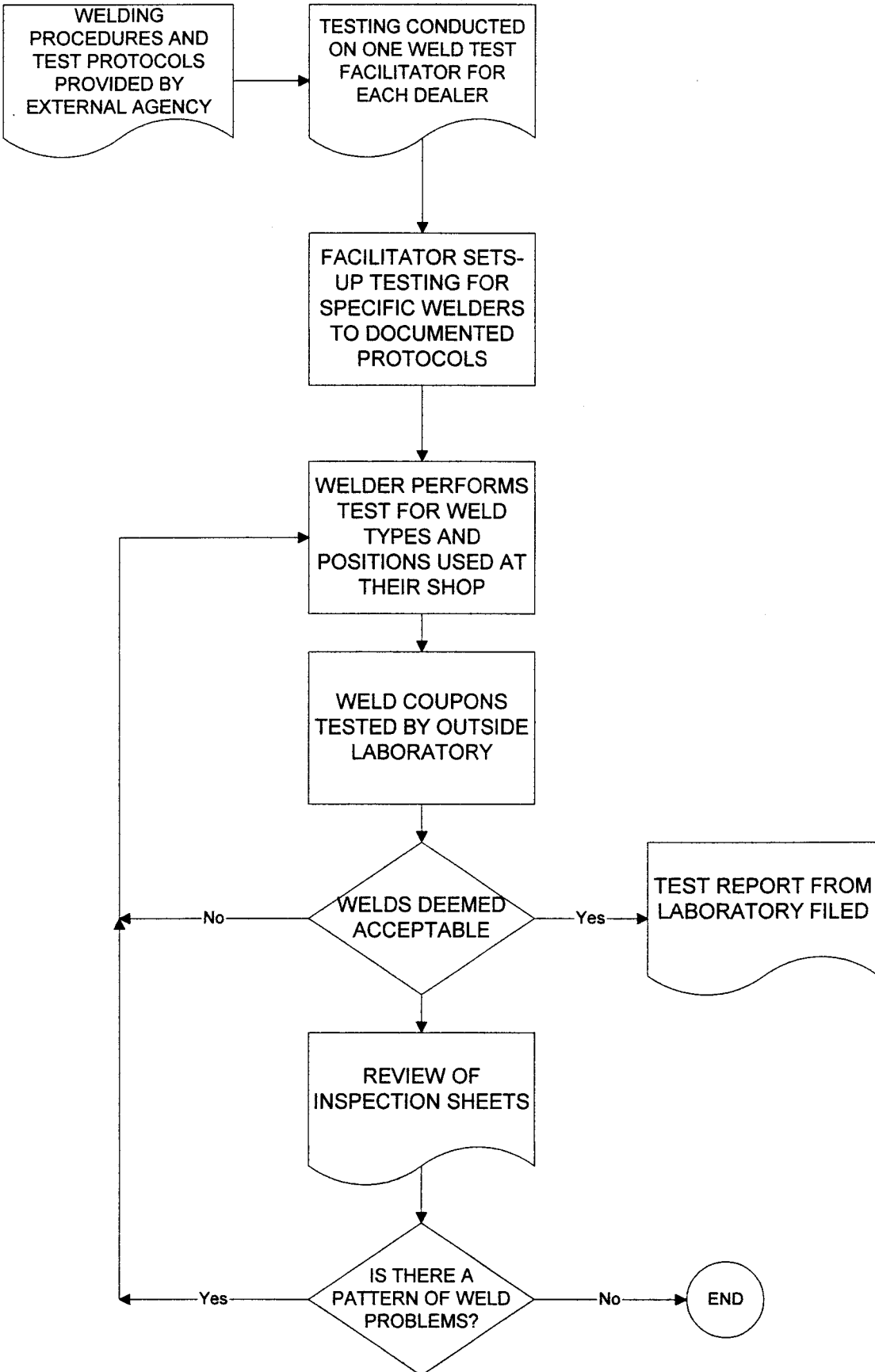


WELD/WELDER CERTIFICATION TO AWS STANDARDS



Procedure Qualification Record (PQR)
(AWS B 2.1:98 clause 2.3, Qualification of Procedures)
 Record Actual Conditions Used to Weld Test Coupon.

Company Name: **NMEDA**

Procedure Qualification Record No. **NMEDA-1-1**

Date: **03 November, 2003**

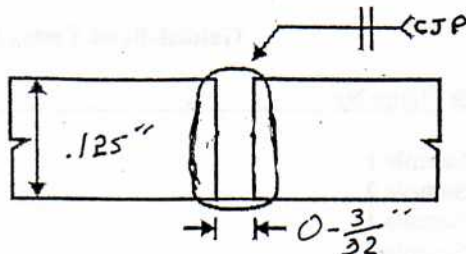
Welding Procedure Specification (WPS) No. **NMEDA-1**

Rev. **0**

Welding Process (es). **G.M.A.W.**

Types (Manual, Automatic, Semi-Automatic) **Semi-Automatic**

JOINTS (2.14.1)



Groove Design of Test Coupon

(For combination qualifications, the deposited weld metal thickness shall be recorded for each filler metal or process used.)

BASE METALS (2.14.2)

Material Spec. **ASTM. A 36**

M- No1 or P-No.1 To M-No1 or P-No. 1

Thickness of Test Coupon: **.125"**

Diameter of Test Coupon: **N/A**

Other:

POSTWELD HEAT TREATMENT (2.14.6) N/A.

Temperature: **N/A**

Other:

GAS (2.14.7)

Percent Composition.

	Gas(es)	(Mixture)	Flow Rate
Shielding	Argon/Co2	92% / 8%	20 cfh.
Trailing	N/A		
Backing	N/A		

FILLER METALS (2.14.3)

SFA Specification: **ER70S-6**

AWS Classification: **A 5.18**

Filler Metal F No: **F6**

Weld Metal Analysis A-No.

Size of Filler Metal(s) **0.030"**

Other:

ELECTRICAL CHARACTERISTICS (2.14.8)

Current: **DC+**

Polarity: **POSITIVE**

125Amps: 18 Volts:

Tungsten Electrode Type and Size: **N/A**

Other:

POSITION (2.14.4)

Position of Groove: **1G**

Weld Progression (Down hand,)

Other: **Forehand technique.**

OTHER VARIABLES (2.14.9)

Travel Speed: **Manual**

String or Weave Bead. **String**

Oscillation: **N/A.**

Multipass or Single pass (per side). **Single**

Single or Multiple Electrodes: **Single**

Other:

PREHEAT (2.14.5)

Preheat Temperature: **70 deg. F min.**

Interpass Temperature: **350deg.F max.**

Other: (Note details of special heating Requirements)

Procedure Qualification Record (PQR)
(AWS B 2.1:98 clause 2.3, Qualification of Procedures)
 Record Actual Conditions Used to Weld Test Coupon.

Company Name: **NMEDA**

Procedure Qualification Record No. **NMEDA-2-2**

Date: **03 November, 2003**

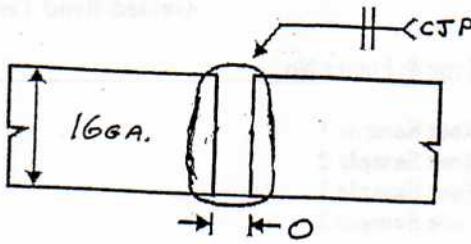
Welding Procedure Specification (WPS) No. **NMEDA-2**

Rev. **0**

Welding Process (es). **G.M.A.W.**

Types (Manual, Automatic, Semi-Automatic) **Semi-Automatic**

JOINTS (2.14.1)



Groove Design of Test Coupon

(For combination qualifications, the deposited weld metal thickness shall be recorded for each filler metal or process used.)

BASE METALS (2.14.2)

Material Spec. **ASTM. A 36**

M- No1 or P-No.1 To M-No1 or P-No. 1

Thickness of Test Coupon: **16 gauge.**

Diameter of Test Coupon: **N/A**

Other:

POSTWELD HEAT TREATMENT (2.14.6) N/A.

Temperature: **N/A**

Other:

GAS (2.14.7)

Percent Composition.

Shielding	Gas(es)	(Mixture)	Flow Rate
	Argon/Co2	92% / 8%	20 cfh.
Trailing	N/A		
Backing	N/A		

FILLER METALS (2.14.3)

SFA Specification: **ER70S-6**

AWS Classification: **A 5.18**

Filler Metal F No: **F6**

Weld Metal Analysis A-No.

Size of Filler Metal(s) **0.023"**

Other:

ELECTRICAL CHARACTERISTICS (2.14.8)

Current: **DC+**

Polarity: **POSITIVE**

88Amps:

18 Volts:

Tungsten Electrode Type and Size: **N/A**

Other:

POSITION (2.14.4)

Position of Groove: **1G**

Weld Progression (Down hand,)

Other: **Forehand technique.**

OTHER VARIABLES (2.14.9)

Travel Speed: **Manual**

String or Weave Bead. **String**

Oscillation: **N/A.**

Multipass or Single pass (per side). **Single**

Single or Multiple Electrodes: **Single**

Other:

PREHEAT (2.14.5)

Preheat Temperature: **70 deg. F min.**

Interpass Temperature: **350deg.F max.**

Other: (Note details of special heating Requirements)

Tensile Test (2.7.5)

Specimen Number	Width	Thickness	Area	Ultimate Total Load (lb.)	Ultimate Unit Stress (psi)	Type of failure & Location
T1	N/A	Prequalified procedure				
T1	N/A	"	"			

Guided-Bend Tests (2.7.6)

Type & Figure No.	Result
Root Sample 1	PASS
Root Sample 2	PASS
Face Sample 1	PASS
Face Sample 2	PASS

Other Tests

Type of Test: **Visual examination (2.7.3)** **Acceptable**

Deposit Analysis: N/A

Other:

Welder's Name: **Darrel Chase**

Clock No.

Stamp No.002

Tests conducted by: Advanced Welding Techniques Inc. (on behalf of) NMEDA.
1016 Upper Wellington Street,
Hamilton, Ontario, L9A 3S3.

Laboratory Test Center:

Laboratory Test No.

Dated: 8 November , 2003

We certify that the statements in this record are correct and that the test welds were prepared welded and tested in accordance with the requirements of Section 2 of AWS B2.1: 98 'Standard for Welding Procedure and Performance Qualification'.

Manufacturer: NMEDA Signed by.

Daniel F. O'Brien

Advanced Welding Techniques Inc.

Signed by.

Steve Hall

Date: November 8, 2003

Welding Procedure Specification (WPS)

WPS No: NMEDA.-1

Revision No. 0

Date: **November 08, 2003**

Company name: **NMEDA.**

Supporting PQR Nos: **Prequalified as per AWS 2.1:98**

Welding Process(es): G.M.A.W.

Backing: With or without

Material Number: M1/P1 Group 1 & 2

Material Spec. Type and grade: *see note

Type: **Manual () Semi-automatic (x)**

Machine (), Automatic ().

Backing Material: (type) M1/P1 Group 1,2 or 3.

To: Material Number: M1/P1 Group 1 & 2

To: Material Spec. Type and grade: * see note

***Note steel conforms to A36, A513, A336, SAE1005, 1010, 1020**

CSAGW40.21, GR44W

Base metal thickness range: Min.0.0625" Max.0.2690"

Fillet: Base Metal Thickness min.

Deposited weld metal thickness range: Base metal thickness plus reinforcement.

Filler metal F-number: F6

A number: 1

Spec. Number (AWS): A 5.18 Class ER70S-6

Flux trade name: N/A

Electrode-flux (class): N/A

Type:

Consumable insert: Yes() No(x)

Classifications:

Shape:

Position(s): Flat & Horiz. (Vert down)

Size:

Welding progression: Up () Down (x)

Preheat:

Preheat temp., min. 70 deg. F

Interpass temp., max. No.350 deg. F max.

(continuous or special heating, where applicable, should be recorded)

Gas:

Shielding gas(es)

Percent composition. Ar 92% CO2 8%

Flow rate: 20 cfh

Root shielding gas: N/A

Trailing gas composition: N/A

Trailing gas flow rate: N/A

Postweld Heat Treatment: N/A

Temperature range:

Time range:

Tungsten electrode, type and size: N/A

Mode of metal transfer for GMAW: Short-circuiting () Globular () Spray (x)

Electrode wire-feed speed range: N/A

Stringer bead (x) & Weave (x)

Peening: Yes ()

No (x)

Oscillation: N/A

Stand-off distance: N/A Multiple () or single electrode (x)

FILLER METAL

CURRENT

Weld Layers	Process	Class	Dia.	Type & polarity	Amps. Range	Volts Range	Travel Speed Range	Special notes.
1	GMAW	ER70S-6	0.030"	DC+	90-160	18-20	Manual	
2	GMAW	ER70S-6	0.030"	DC+	90-160	18-20	Manual	
3&4	GMAW	ER70S-6	0.030"	DC+	90-160	18-20	Manual	

Approved for production by:

Date:08/11/03

In accordance with AWS B2.1:98.

Welding Procedure Specification (WPS)

WPS No: NMEDA.-2

Date: **November 8,2003**
 Company name: **NMEDA.**

Revision No. **0**

Supporting PQR Nos: **Prequalified as per AWS B2.1**
Welding Process(es): G.M.A.W.
Backing: With or without
 Material Number: **M1/P1 Group 1& 2**
 Material Spec. Type and grade: ***see note**

Type: Manual () Semi-automatic (**x**)
 Machine (), Automatic ().
 Backing Material: (type) **M1/P1 Group 1,2 or 3.**
 To: Material Number: **M1/P1 Group 1 & 2**
 To: Material Spec. Type and grade: *** see note**
***Note steel conforms to A36,A513,A336,SAE1005,1010,1020**
CSAGW40.21,GR44W

Base metal thickness range: 16 gauge& thinner
 Deposited weld metal thickness range: **Base metal thickness plus reinforcement.**
 Filler metal F-number: **F6**
 Spec. Number (AWS): **A 5.18 Class ER70S-6**
 Electrode-flux (class): **N/A**
 Consumable insert: Yes() No(**x**)

Fillet: Base Metal Thickness min.
 A number: **1**
 Flux trade name: **N/A**
 Type:
 Classifications:
 Shape:

Position(s): **Flat & Horiz. (Vert down)**
 Welding progression: Up () Down ()

Size:

Preheat:
 Preheat temp., min. **50 deg. F**
 Interpass temp., max. **No. F max.**
 (continuous or special heating, where applicable, should be recorded)

Gas:
 Shielding gas(es)
 Percent composition. **Ar 92%CO2 8%**
 Flow rate: **20 cfh**
 Root shielding gas: **N/A**
 Trailing gas composition: **N/A**
 Trailing gas flow rate: **N/A**

Postweld Heat Treatment: N/A
 Temperature range:
 Time range:
 Tungsten electrode, type and size: **N/A**
 Mode of metal transfer for GMAW: Short-circuiting () Globular () Spray (**x**)
 Electrode wire-feed speed range: **N/A**
 Stringer bead (**x**) & Weave (**x**) Peening: Yes () No (**x**)
 Oscillation: **N/A**
 Stand-off distance: **N/A** Multiple () or single electrode (**x**)

FILLER METAL

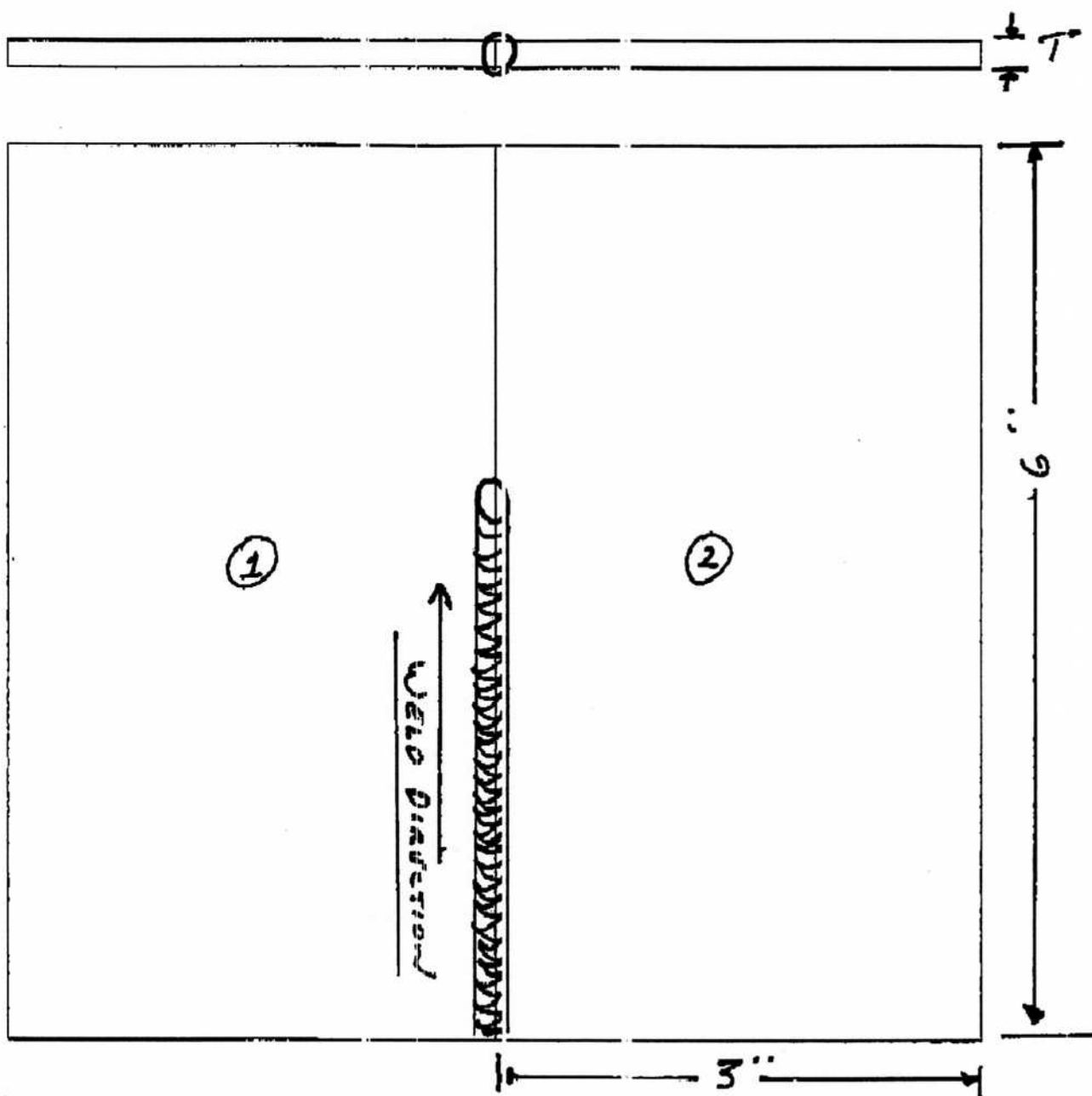
CURRENT

Weld Layers	Process	Class	Dia.	Type & polarity	Amps. Range	Volts Range	Travel Speed Range	Special notes.
1	GMAW	ER70S-6	0.020"	DC+	60-80	14-18	Manual	
2	GMAW	ER70S-6	0.020"	DC+	60-80	14-18	Manual	
3&4	GMAW	ER70S-6	0.020"	DC+	60-80	14-18	Manual	

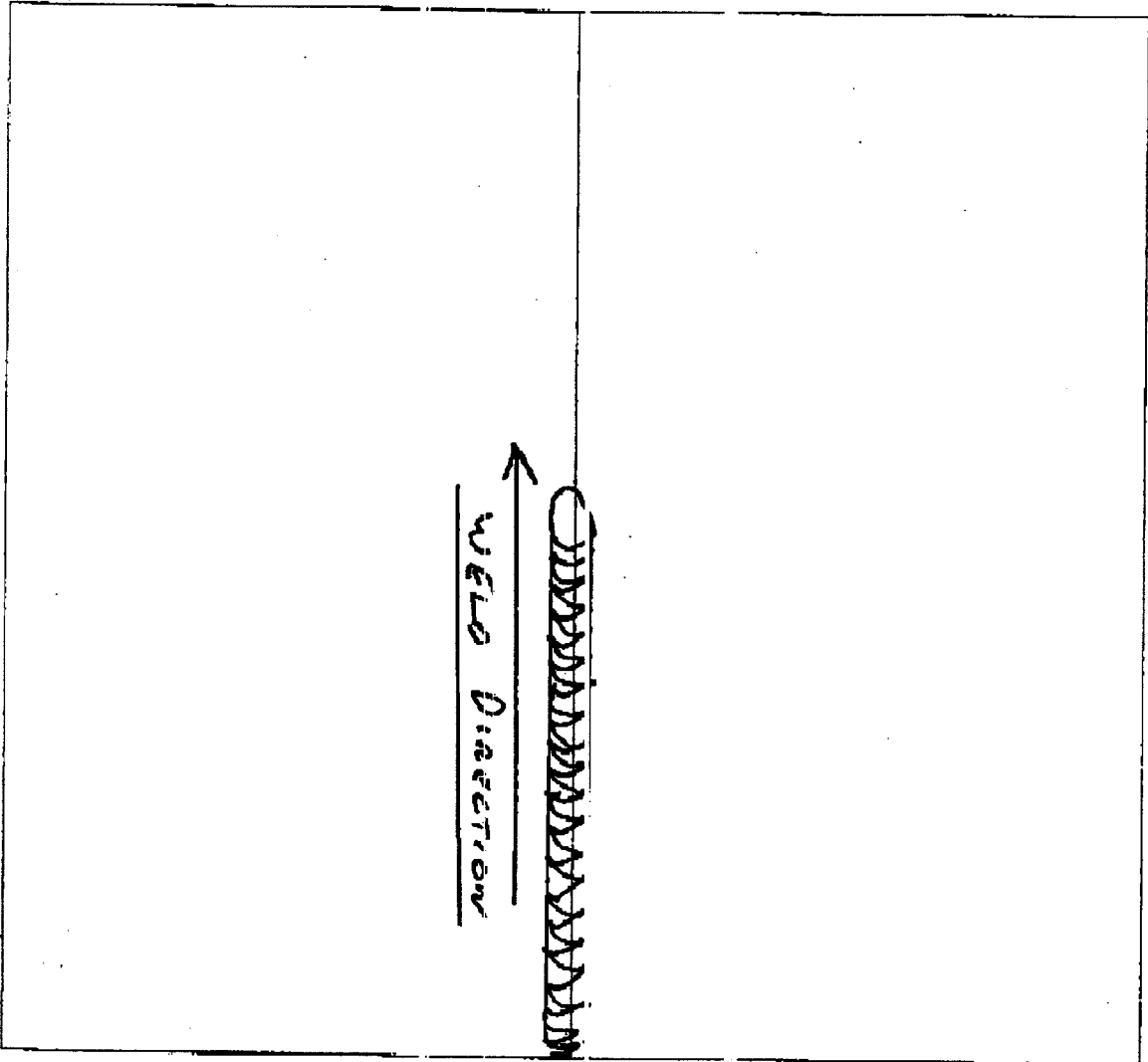
Approved for production by:

Date:08/11/03

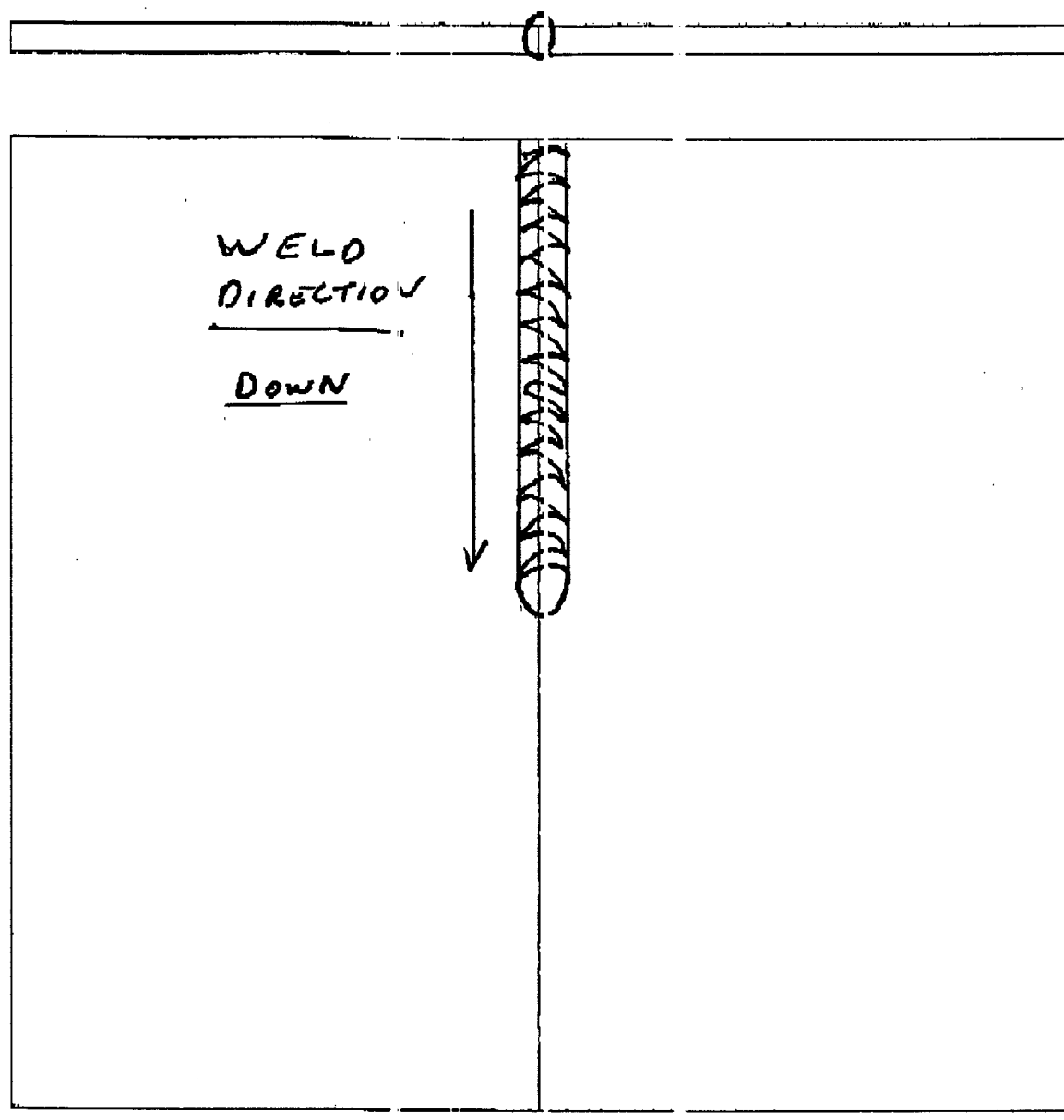
In accordance with AWS B2.1:98.



FLAT WELD



Horizontal Weld



VERTICAL WELD