



WELDING PROCEDURE SPECIFICATION

IDENTIFICATION

WPS - E309/83670

PRODUCT
CUSTOMERDOWNCOMER BRACING - NUCLEAR POWER PLANT
COMMONWEALTH EDISONPAGE NO 1
REV. NO.
BY TJL 5

OF 3

DATE 5/19/80

WORK THIS DOCUMENT WITH GEN. WELD PROCEDURE SPEC. GWPS- SMAW

REFERENCE PROCEDURE QUALIFICATION RECORD

SPECIFIC CONTRACT

NO.	POSITION	THICKNESS RANGE	POSITION	THICKNESS RANGE
4580	1G,3G	3/16" - 3"	ALL	3/16" - 2 3/4"
4581	1G,3G	3/16" - 3"		
2743	1G,2G,3G,4G	3/16" - 2"		
4643	5G	3/16" - 1.75"		

SPECIFIC CONTRACT WPS REQUIREMENTS

BASE METAL-

A588 Gr. A (Sim. ASME P-1 Gp 3)
welded to
A240 Tp 304 (ASME P-8 Gp 1)
or to A36 (ASME P-1 Gp 1).
or to A618 Gr. II (Sim. ASME P-1 Gp 3)
A36 (ASME P-1 Gp 1) welded together.

This Welding Procedure Specification is
complies with the ASME Code, Section III,
Summer 1977.

This Welding Procedure Specification is
to be used for manual welding with E309
electrode on the base materials listed.

LIMITATIONS:

The interpass temperature of joints in
the base material listed shall not
exceed 350°F maximum.

No post weld heat treatment is required.

For plate thicknesses of 1" or less,
no preheat is required except as an aid
for removing moisture or unless the
ambient temperature falls below 50°F.
When the ambient temperature falls below
50°F, the plates shall be preheated warm
to the hand within 3" of the point of
welding.

For plate thicknesses greater than 1",
a continuous preheat of 200°F is required.

Use only stainless brushes on the
stainless steel material.

*Electrode negative (straight polarity)
may be used for the first pass when
welding the A588 material to the A618
material.

FILLER METAL-

ASME SPECIFICATION NO.: SFA 5.4
ASME CLASSIFICATION: E309
ASME ANALYSIS NO.: A-8
ASME GROUP NO.: F-5

ELECTRICAL CHARACTERISTICS-

CURRENT: Direct Current
POLARITY: Electrode Positive*
OTHER: (Reverse Polarity)

BACKING MATERIAL-

None Required

FLUX-

None Required

GAS-SHIELDING

COMPOSITION: None
MIN. FLOW RATE: Required

BACKUP

None
Required

CUSTOMER APPROVAL- SEE CEC. LETTER
To CBI (T.QUAKA To K. NOCKELS)
QAL #2646 DATED 6/19/80.

CQA Stamp Page 2

REVIEWED	OB ENGR	DIST ENGR	WELDING SERVICES- HOUSTON	CORP QA	REG CONST QA	REG MFG QA	Type Correction	FES BY	DATE
	JSV		DJS		LRS	RTF			
							PREPARED	JEB	5/5/78
							CHECKED	TJL	5/15/78
							AUTHORIZED	RES	5/29/80

PRELIMINARY RELEASE FOR USE:

WL 100 (PAGE 1 OF 2) REV NOV 76

9802270094 980220
PDR ADOCK 05000373
P PDR

Kankakee CQA, 6/20/80.

CBI

WELDING PROCEDURE SPECIFICATION

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SPECIFIC REQUIREMENTS: (CONTINUED)LIMITATIONS: (CONTINUED)

For plate thicknesses greater than 5/8", vertical passes shall be uphill except root passes and cover passes may be uphill or downhill. For plate thicknesses of 5/8" or less, vertical passes may be deposited uphill or downhill.

Nonmetallic retainers or nonfusing metal retainers are not to be used.

No supplemental filler metal is to be used.

Welding of A 36 material together shall be limited to a maximum thickness of 5/8".

Maximum pass thickness in welds greater than 5/8" thick shall not exceed approximately 1/4".

Welding of the A618 material to the A588 material shall be limited to a maximum thickness of 1", and the maximum electrode diameter to be used is 5/32"Ø.

CBI

CONTRACT 83674
DATE 7-7-80
INITIALS dlw
RELEASED BY
CNQA SERVICES



IDENTIFICATION

Wrs-E309/83670

TITLE WELDING PROCEDURE SPECIFICATION

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PRODUCT DOWNCOMER BRACING - NUCLEAR POWER PLANT

REV. NO. 5

CUSTOMER COMMONWEALTH EDISON

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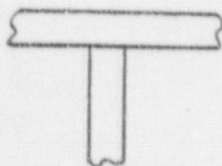
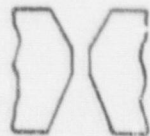
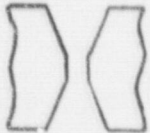
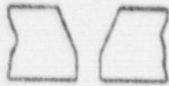
GENERAL WELDING TECHNIQUE

Operation Description	Beads Layer	Weld Proc	Electrode		Current (amps)	Voltage (Volts)	Travel (IPM)	B.O.R. Sec/12"
			Size	Type				
Stringer Beads*	As Req'd	SMA	3/32"Ø	E309-15	60-100	23-26	---	54-30
			1/8"Ø		60-100	23-26	---	85-53
			5/32"Ø		100-145	23-26	---	93-59
			3/16"Ø		130-230	24-27	---	90-45
			3/32"Ø	E309-16	60-100	19-22	----	65-40
			1/8"Ø		70-110	23-26	---	108-55
			5/32"Ø		110-160	24-26	---	105-62
			3/16"Ø		160-240	24-27	---	90-50

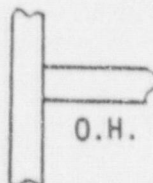
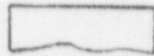
*Vertical Uphill welds and overhead welds may be deposited using a weave technique. Vertical position: maximum diameter allowed is 5/32"Ø.

JOINT DETAIL - See contract drawings for applicable joint details and dimensions.

VERTICAL



HORIZONTAL



OVERHEAD & DOWN

