



Fullman Power Products

Division of Fullman Incorporated

PQR-No. - 310

DOCUMENT NO.

PREPARED BY: R. I. Boyer

APPROVED BY: F. J. Richards

DATE: 4/6/78

AS WELDED
PROCEDURE
QUALIFICATION RECORD (PQR)

TO BE USED
ONLY ON JOB #

7035

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WPS NO. 79-8/1-05-1

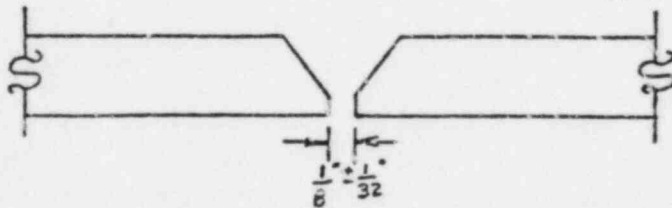
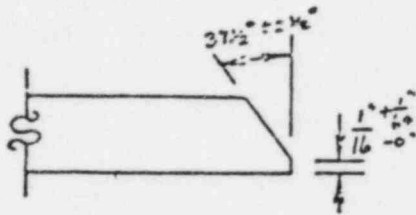
WPS DATE 6/22/71

WELDING PROCESS (ES) GTAW

TYPES Manual

Updated reprint of MW 00-01-05-GTAW-SMAW-60

(MANUAL, AUTOMATIC, SEMI-AUTO)



GROOVE DESIGN USED

BASE METAL (CW-403)

MATERIAL SPEC. A312 to A-106

TYPE OR GRADE T304 to B

OF P NO. 8 TO P NO. 1

THICKNESS (IF PIPE, DIAMETER AND WALL
THICKNESS) 6" x .280"

POSITION (CW-405)

POSITION OF GROOVE Inclined angle 45° (6G)

WELD PROGRESSION Uphill
(UPHILL - DOWNHILL)

PREHEAT (CW-406)

PREHEAT TEMP. 50° F. Min.

INTERPASS TEMP. 350° F. Max.

OTHER _____

GAS (CW-406)

TYPE OF GAS OR GASES Argon

COMPOSITION OF GAS MIXTURE N/A

TECHNIQUE PROCEDURES (CW-410)

STRING OR WEAVE BEAD Stringer

OSCILLATION N/A

MULTIPASS OR SINGLE PASS Multipass
(PER SIDE)

SINGLE OR MULTIPLE ELECTRODES Single

FILLER METALS (CW-404)

WELD METAL
ANALYSIS A NO. 8

FILLER METAL
F NO. _____

S.F.A. SPEC. 5.9

AWS CLASS ER309

FOR INFORMATION ONLY

POSTWELD HEAT TREATMENT (CW-407)

TEMPERATURE None

TIME N/A

OTHER _____

ELECTRICAL CHARACTERISTICS (CW-409)

WELDING PROCESS	ELECTRODE DIA.	BARE FILLER WIRE DIA.	CURRENT (AMPS)	VOLTS	AC/DC POLARITY	Min. TRAVEL SPEED	COMMENTS
GTAW	Tungsten 3/32	1/16 & 3/32	90-185	11 - 15	DC Straight	3 IPM	Torch Gas Arg @ 20 C.F.H.



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TENSILE TEST (QW-150)

SPECIMEN NO.	WIDTH	THICKNESS	AREA	ULTIMATE TOTAL LOAD LB.	ULTIMATE UNIT STRESS PSI	CHARACTER OF FAILURE & LOCATION
69-1	.754	.190	.143	11,100	77,600	Broke in B/M
69-2	.753	.196	.148	11,400	77,000	Broke in B/M

GUIDED BEND TESTS (QW-160)

TYPE AND FIGURE NO.	RESULTS	TYPE AND FIGURE NO.	RESULTS
FB-1	Bent 180° Passed	FB-1	Bent 180° Passed
FB-2	Bent 180° Passed	FB-2	Bent 180° Passed

TOUGHNESS TESTS (QW-170)

SPECIMEN NO.	NOTCH LOCATION	NOTCH TYPE	TEST TEMP.	IMPACT VALUES	LATERAL EXP.	
					AVE % SHEAR	MILS

Welder's Name R. Knowlden Clock No. 33 Stamp No. BD
 Test Conducted by: Pullman Power Products Laboratory Test, No. EA-69
 For: Robert I. Bover

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 IX of the ASME Code.

Signed _____ Pullman Power Products

Date April 6, 1978

By Robert I. Bover
 R. I. Bover