

WeldOffice® printout sample - ASME WPS

C-spec

P.O. Box 27604, Concord, California 94527 (877) 977-7999
ASME IX Welding Procedure Specification (WPS)
 Created with WeldOffice® WPS Module



WPS record number	WPS-101	Revision 0	Qualified to	ASME IX
Date	1/25/02		Company name	C-spec
Supporting PQR(s)	PQR-101 - Rev 0			
Reference docs.				

Scope	Shielded metal arc and Flux cored arc welding of carbon steel for impact tested and PWHT application Groove, fillet, no PWHT (As-welded), impact testing, with PWHT
Joint	Joint details for this welding procedure specification in: JOINTS section of this WPS, Production drawings, Engineering specifications, Reference documents

BASE METALS (QW-403)

Type	Carbon steel (P1)	P-no. 1	Grp-no. 1
Welded to	Carbon steel (P1)	P-no. 1	Grp-no. 1
Backing:	None	P-no. -	Grp-no. -
Retainers	None		
Notes			

THICKNESS RANGE QUALIFIED (in.)

	As-welded		With PWHT	
	Min.	Max.	Min.	Max.
Complete pen.	0.063	0.75	0.063	0.75
Impact tested	0.375	0.75	0.375	0.75
Partial pen.	0.063	0.75	0.063	0.75
Fillet welds	no min.	no max.	no min.	no max.

DIAMETER RANGE QUALIFIED (in.)

	As-welded		With PWHT	
	Min.	Max.	Min.	Max.
Nominal pipe size	no min.	no max.	no min.	no max.

FILLER METALS (QW-404)

THICKNESS RANGE QUALIFIED (in.)

	SFA	Classification	F-no.	A-no.	Chemical analysis or Trade name	As-welded		With PWHT	
						Min.	Max.	Min.	Max.
SMAW	5.1	E6010 (smaw note)	3	1		no min.	0.25	no min.	0.25
FCAW	5.20	E70T-12 (fcaw note)	6	11		no min.	0.5	no min.	0.5
Sup. filler	-	-	-	-	-	- None -			

WELDING PROCEDURE

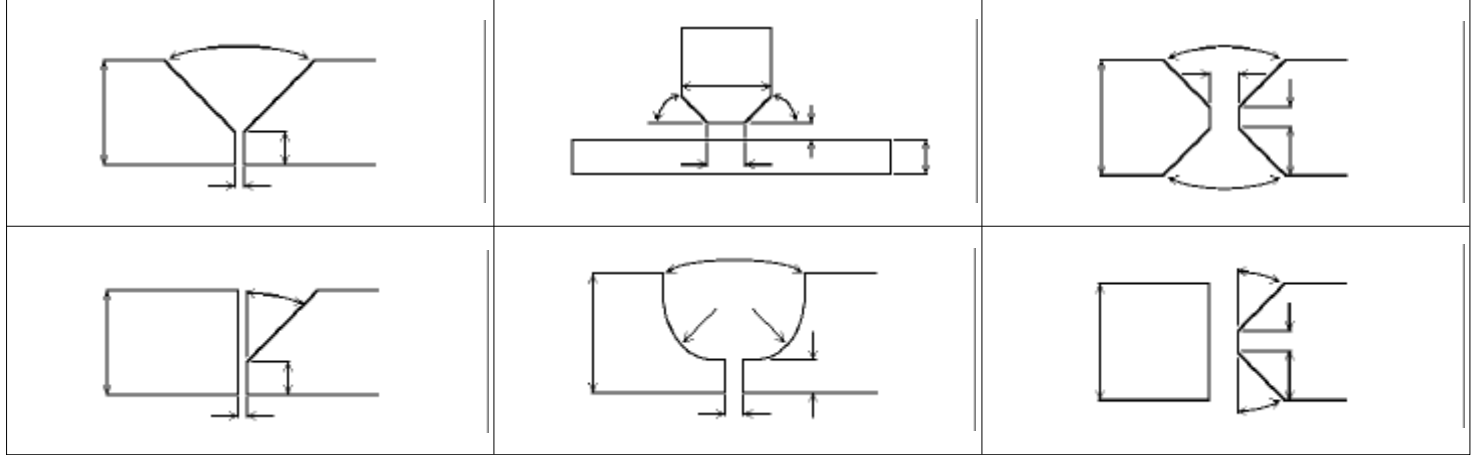
	SMAW		FCAW	
	Manual		Semi-automatic	
Welding process	SMAW		FCAW	
Type	Manual		Semi-automatic	
Preheat temperature (°F)	70		200	
Maximum interpass temperature (°F)	425		450	
Filler metal size (in.)	3/32	1/8	1/8	3/32
Layer number	All	All	All	All
Position of groove	All	All	All	All
Weld progression	Uphill	Uphill	Uphill & Downhill	Uphill & Downhill
Current/polarity	DCEP (reverse polarity)	DCEP (reverse polarity)	DCEP (reverse polarity)	DCEP (reverse polarity)
Amperes	100 - 115	110 - 135	110 - 135	120 - 180
Volts	28 - 32	27 - 33	27 - 32	28 - 34
Travel speed (in./min)	6 - 8	7 - 9	7 - 10	7 - 11
Maximum heat input (kJ/in.)	28.0	29.5714	34.7143	40.8
Wire feed speed (in./min)	-	-	120 - 145	130 - 160
Arc transfer mode	-	-	Spray	Spray
Shielding:	Gas type	-	75% Argon, 25% CO2	-
	Flow rate (cfh)	-	30	30
Trailing:	Gas type	-	None	-
	Flow rate (cfh)	-	-	-
Backing:	Gas type	-	None	-
	Flow rate (cfh)	-	-	-
String or weave	Stringer or Weave		Stringer or Weave	
Orifice/gas cup size	-		.5	
C.T.W.D	-		.75	
Multi/single pass	Single or multiple passes		Single or multiple passes	
Maximum pass thickness	0.500		0.500	
Weld deposit chemistry				
Notes				



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JOINTS (QW-402) Typical joint(s). See actual production drawings and engineering specifications for details.



PREHEAT TABLE

Applicable standard	
ASME Section VIII Div. 1	175 (°F) for thickness over 1 (in.) and specified maximum carbon content over 0.30%. 50 (°F) for all other materials.
ASME Section III Div. 1-NB	250 (°F) for thickness over 1 (in.) and specified maximum carbon content over 0.30%. 200 (°F) for thickness over 1.5 (in.) and maximum carbon content of 0.30% or less. 50 (°F) for fillet welds 1/2 (in.) and less used to attach parts not carrying loadings due to internal pressure. 50 (°F) for all other materials.
ASME B31.1	175 (°F) for thickness over 1 (in.) and specified maximum carbon content over 0.30%. 50 (°F) for all other materials.
ASME B31.3	50 (°F) for thickness less than 1 (in.) and specified minimum tensile strength not over 71000 (psi). 175 (°F) for 1 (in.) and greater thickness, or if specified minimum tensile strength is over 71000 (psi).

POST WELD HEAT TREATMENT (QW-407)

Temperature (°F)	800	Time (hrs)	1hr/(in.)	Type	Stress relief
Heating rate (°F/hr)	200	Method	Furnace		
Cooling rate (°F/hr)	200	Method	Still air		
Notes					

TECHNIQUE (QW-410)

Peening	Not used
Surface preparation	None
Initial/interpass cleaning	Brushing and Grinding
Back gouging method	Thermal

NOTES

NOTES:
 The following AWS/SFA classifications can be used with this procedure:

(smaw note) E6010, E6011
 (fcaw note) E70T-12, E70T-12M, E71T-12, E71T-12M

Welding Engineer

QA Manager

Name	Signature	Name	Signature
Nick Mossman		M. Bernasek	
Date		Date	
3/30/01		3/30/01	