SUMMIT MEXICO TPI

WELDING PROCEDURE SPECIFICATION (WP

Company Namc	SUMMIT MEXICO TPI		By:	ING. JOSÉ JUAN JIMÉNEZ ALEJANDRO	
Wclding Proccdurc Spccification	WPS-01	Date	02-07-10	Supporting PQR No.(s)	PQR-01
Revision No.	O	Date	02-07-10		
Wclding Proccss(cs)	GTAW	Type(s)	MANUAL		
			(Automatic, !vlanual, Machinc, or Semi-Auto.)		

JOINTS (QW-402)

Joint Design: GROOVE ANO FILLET

Root Spacing: 1/8"' ± 1/16" OR SEE FABRICATION DRA\VINGS

Backing (Yes) X (No) X

Backing Material (Type): \VELO AND/OR BASE METAL

(Rcfcr to both backing and rctuincrs.)

NO RETAJNERS USED

☐ Metal ☐ Nonfüsing Metal

D Nonmetallic D Other

SEE FABRICATION ORA WING

Skctches, Production Drawings, Wcld Symbols or Writtcn Dcscription should show tite general arrangemcnt of thc parts to be wcldcd. \Vhere Applicable, thc root spacing and thc dctails ofweld groovc muy be spccificd.
(At the option of the Mlgr., Skctchcs may be attachcd to illustrate joint dcsign, weld !aycrs and bcad sequcncc, e.g. for notch toughness proccdurcs, far multiplc proccss proccdurcs, ele.)

• BASE METALS (QW-403)

P-No. 43 Group No. – to P-No. 43 Group No. –

OR

Spccitication and typc/gradc or UNS Numbcr –

to Spccitication and typc/grude or UNS Numbcr –

OR

Chcm. Analysis and Mcch. Prop. –

To Chcm. Analysis and Mcch. Prop. –

Thickncss Rangc:

Base Metal: Groovc 1/16" TO ¾" Fillct ALL

rvh1ximum Pass Thickncss S: ½" (13 mm) (Yes) X (No) –

Other –

• FILLER METALS (QW-404)

Spec. No. (SFA)	5.14
AWS No. (Cluss)	ERNiCr-3
F-No.	43
A-No	–
Size ofFiller Mctals	3/32"
Filler Mt!tal Product Form	SOLIO ROO
Supplcmcntal Filler Metal	NONE

Wcld Mctnl

Thickncss Range:

Groove	¼"MAX.
Fillet	ALL
Eleetrode-Flux (Class)	NONE
Flux Typc	NA
Flux Tradc Name	NA
Consumable lnscrt	NONE
Othcr	–

• Euch base mctal fillcr mctul combinution should be rccordcd individunlly.

WPSNo. **WPS-01** Rev. **0**

POSITIONS (QW-405)

Position(s) ofGroovc: ALL
Wclding Progrcssion: Up **X** Down
Position(s) ofFillct: ALL
Other

POSTWELD HEAT TREATMENT (QW-407)

Tcmpcraturc Rangc: NONE
Time Rangc: –
Othcr: –

PREHEAT (QW-406)

Prchcat Tcmpcraturc, Minimum: 60 ºF
Intcrpass Tcmpcraturc, Maximum: Kcco tcmncraturc bclow 300 ºF
Prchcat ivtaintcnancc:
Othcr: Rcmovc humidity from thc surface whcn rcquircd, scc tccbniquc.
(Continuous or spccial hcating whcrc applicablc should be rccordcd)

GAS (QW-408)

	Pcrccnl Composition Gas(cs)	Mixture	Flow Rute
Shiclding	Ar	99.9%	35-40 CFH
Trailing			
Backing	Ar	99.9%	25-30 CFH
Othcr	-	-	-

ELECTRICAL CHARACTERISTICS (QW-409)

Weld Pass(es)	Proccss	Filler Metal Clnssificution	Filler Metal Dinmctcr	Currcnt Typc and Polnrity	Currcnt Amps (Rnnge)	Volts (Range)	Travcl Speed (Range)	Otbcr (c.g., Rcmnrlc, Comments, llot Wirc Addition, Tccbniquc, Torcb An!!lc, cte.)
1	GTAW	ERNiCr-3	3/32"	DCEN	150-200	12-16	VARIABLE	

Amps and volts range should be rccorded for each clectrodc size, position, and thickness, etc.

Pulsing Current: NA
Heat Input (max.): NA

Tungstcn Elcctrodc Size and Typc: 3/32" or 1/8", 2% Thoriatcd (EWTb-2)
(Purc Tungstcn, 2% Thoriutcd, etc,)

Modc of Metal Transfcr far GMA W (FCA W): NA
(Spray Are, Short Circuiting Are, etc.)

Elcctrodc \Vire fccd spccd rangc: NA

Other

TECHNIQUE (QW-410)

String or Weave Bcad: String
Oriticc, Nozzle or Gas Cup Sizc: 5/8" or us rcquircd
Initial and lnterpass Clcaning (Brushing, Grinding, cte.): Grindin!! and brushing as ncccssarv

Mcthod ofBack Gouging: Grindine. and brushin!! as ncccssary.
Oscillution: None
Contact Tubc to Work Distance: NA
Multiplc or Single Puss (pcr sidc): Multiolc
Multiplc or Single Elcctrodes: Single
Electrodc Spacing: NA
Pccning: Not Allowcd
Othcr: Acetonc clcaning can be use to rcmove ali contarninant traces from thc surface,
Are air use is not allowcd.
Ali brushcs and whecls must be S.S. and ure to be used exclusively for P43 material.

SUMMIT MEXICO TPI

WELDING PROCEDURE QUALIFICATION (PQR)

Company Namc SUMMIT MEXICO TPI

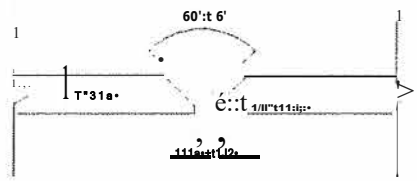
Proccdurc Qualiiication Record No. — Date 02-07-08

IVPS No. MDl-145-2008

Wclding Proccss(es) GTAW/SMAW

Typc (Manual, Automatic, Semi-Auto.) MANUAL

JOINTS (QW-402)



Groove Dl!sign ofTcst Coupon

(for cornbinntion qualifications, thc <lcposi!cd wcld metal thicknccss shall be rccordcd for cach filler metal ofproccss ust:d.)

BASE METALS (QW-403)

Material Spcc. SB-168

Typt:: / Gradi: or UNS Numbcr UNS 06600

P-No. _ _43 Group No. _ _ To P-No. 43 Group No. _ _

Thicknccss ofTcst Coupon 3/8"

Diamctcr ofTcst Coupon —

Maximum Pass Thicknccss ½"

Othcr —

POSTWELD HEAT TREATMENT (QW-407)

Tcmpcraturc Nonc

Time —

Othcr —

GAS (QW-408)

	Pcrcl:nt Composition Gas(cs)	Mixture	Flow Rute
Shiclding	Ar	99.9%	35-40 CFH
Trailing	—	—	—
Bucking	Ar	99.9%1	25-30 CFH
Other	—	--	—

Filler Mctnls (QW-404)

	GTAW	SMAW
SFA Specification	5.14	5.11
AWS Classification	ERNiCr-3	ENiCrFe-3
Filler Metal F-No.	43	43
Wcld Metal Analysis A No.	NA	NA
Size ofFiller Metal	3/32"	1/8"
Filler Metal Product Form	Solid Rod	E\cctrodc
Supplemcntal Filler Metal	None	Nonc
Elcctrode Flux Classilication	Nonc	None
Flux Type	NA	NA
Flux Tradc Namc	NA	NA
Wcld Metal Thickness	1/8"	¼"
Othcr	--	--

ELECTRICAL CHARACTERISTICS (QW-409)

Current o.e.

Polarity GTAW: Struieht, SMAW: Reverse

Amps Sce othcr Volts Sce other

Tungstcn Elcctrode Size 3/32". 2% Thoriatcd

Modc of Mctul Translcr for GMA W (FCA W) NA

Othcr GTAW: 175 A 14 V

SMAW: 140A 26 V

POSITION (QW-405)

Position of Groo ve 10

Wcld Progression (Uphill, Downhill) —

Other —

TECHNIQUE (QW-410)

Travel Speed Variable

String or Wcuve Bcad Strinl!

Oscillation None

Multipass or Single Pass (per side) Multiole

Single or Mu\tiplc Electrodes Single

Other ..

PREHEAT (QW-406)

Prcheat Tcmperature —

Interpass Tcmperaturc —

Othcr —

PQRNo. PQR-01

Tensile Test (QW-150)

Specimen No.	IN Width	IN Thickness	IN2 Area	Ultimate Total Load LB.	Ultimate Unit Stress osi	Type of Failure & Location
1	0.7620	0.3646	0.27783	28.439	102,364	HAZ
2	0.7640	0.3689	0.28184	28,101	99,705	

Guided-Bend Tests (QW-160)

Tyoe and Figure No.QW-462.3(a)	Result
ROOTBEND	SATISFACTORY
FACEBEND	SATISFACTORY
ROOTBEND	SATISFACTORY
FACE BEND	SATISFACTORY

Toughness Tests (QW-170)

Specimen No.	Notch Location	Specimen Size	Test Temperature	lmnact Values			Drop Weight Break (YIN)	
				Ft-lb or J	% Shear	Mils (in) ormm		
N/A								

Comments --

Fillet-Weld Test (QW-180)

Result-Satisfactory: Yes -- No -- Penetration into Parent Metal: Yes -- No --

Macro-Results --

Other Tests

Type of Test: VISUAL INSPECTION SATISFACTORY ACCORDING TO QW-194

Deposit Analysis --

Other --

Welder's Name JESUS MANUEL ALEJANDRO ROMERO Clock No. Stamp No. JM

Tests conducted by: LABORATORIO Laboratory MT-134480-08

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.

Manufacturer: **SUMMIT MEXICO TPI**

Date JULY, 02, 2010 Certified By JOSE JUAN JIMENEZ ALEJANDRO

(Detail of record of tests are illustrative only and may be modified to conform to the type and number of tests required by the Code)