THERMA
1601 Las Plumas Ave
San Jose, CA 95133
Ph: (408) 347-3400

WELDING PROCEDURE SPECIFICATION (WPS)

QW-482 (Front)

WPS No.: _____ **Date** _____ **Support PQR No. (s)** _____
Revision No. _____ **Date** _____ **By:** _____
Welding Process: _____ **Type(s):** _____
(Automatic, Manual, Machine, or Semi-Auto)

JOINTS (QW-402)

Joint Design _____

Backing (Yes) _____ (No) _____

Backing Material (Type) _____
(Refer to both backing and retainers)

☐ Metal ☐ Nonfusing Metal
☐ Nonmetallic ☐ Other

Sketches, Production Drawings, Weld Symbols or Written Description should show the general arrangement of the parts to be welded. Where applicable, the root spacing and the details of weld groove may be specified.

(At the option of the Mfgr., sketches may be attached to illustrate joint design, weld layers and bead sequence, e.g. for notch toughness procedures, for multiple process procedures, etc)

***BASE METALS (QW-403)**

P-No. _____ Group No. _____ to P-No _____ Group No. _____
OR
Specification type and grade _____
to Specification type and grade _____
OR
Chem. Analysis and Mech. Prop. _____
to Chem. Analysis and Mech. Prop. _____
Thickness Range:
Base Metal: Groove _____ Fillet _____
Pipe Dia. Range: Groove _____ Fillet _____
Other _____

***FILLER METALS (QW-404)**		
Spec. No. (SFA)		
AWS No. (Class)		
F-No.		
A-No.		
Size of Filler Metals		
Weld Metal		
Thickness Range:		
Groove		
Fillet		
Electrode-Flux (Class)		
Flux Trade Name		
Consumable Insert		
Other		

* Each base metal-filler metal combination should be recorded individually.

WPS No. _____ **Rev.** _____

POSITION (QW-405)

Position(s) of Groove _____

Welding Progression: Up _____ Down _____

Position(s) of Fillet _____

POSTWELD HEAT TREATMENT (QW-407)

Temperature Range _____

Time Range _____

PREHEAT (QW-406)

Preheat Temp. Min. _____

Interpass Temp. Max _____

Preheat Maintenance _____

(Continuous or special heating where applicable should be recorded)

GAS (QW-408)

	Gas(es)	Percent Composition (Mixture)	Flow Rate
Shielding	_____	_____	_____
Trailing	_____	_____	_____
Backing	_____	_____	_____

ELECTRICAL CHARACTERISTICS (QW-409)

Current AC or DC _____ Polarity _____

Amps (Range) _____ Volts (Range) _____

(Amps and volts range should be recorded for each electrode size, position, and thickness, etc. This information may be listed in a tabular form similar to that shown below.)

Tungsten Electrode Size and Type _____
(Pure Tungsten, 2% Thoriated, etc.)

Mode of Metal Transfer for GMAW _____
(Spray arc, short circuiting arc, etc.)

Electrode Wire feed speed range _____

TECHNIQUE (QW-410)

String or Weave Bead _____

Orifice or Gas Cup Size _____

Initial and Interpass Cleaning (Brushing, Grinding, etc.) _____

_____

Method of Back Gouging _____

Oscillation _____

Contact Tube to Work Distance _____

Multiple or Single Pass (per side) _____

Multiple or Single Electrodes _____

Travel Speed (Range) _____

Peening _____

Other _____

_____

Weld Layer(s)	Process	Filler Metal		Current		Volt Range	Travel Speed Range	Other (e.g. Remarks, Comments, Hot Wire Addition, Technique, Torch Angle, Etc.)
		Class	Dia.	Type Polar.	Amp. Range			