



**QW-482 WELDING PROCEDURE SPECIFICATION (W.P.S.)**

Welding Procedure Specification No. 390 / 2 Date 16/09/93 Supporting PQR No. 390

Revision No. 0 Date 16/09/93

Welding Process(es) GTAW Type(s) MANUAL  
(Automatic, Manual, Machine or Semi-Auto.)

**JOINTS (QW-402)**

Joint Design SEE SKETCH

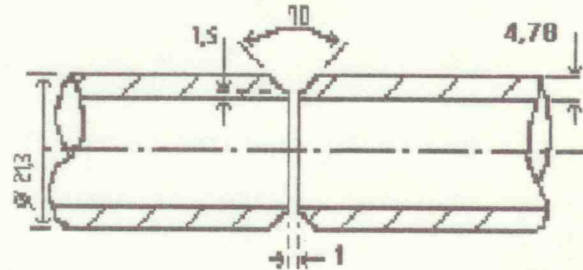
Backing (Yes) (No) X

Backing Material (Type) NO

Root spacing 1-2 mm

Nonmetallic or non fusing metal retainers (Yes) (No) X

Details



**BASE METALS (QW-403)**

P-No. 51 Gr. No. 2 to P-No. 51 Gr. No. 2  
Specification Type and Grade ASTM B337 - 83 GR.2 to ASTM B337 - 83 GR.2

**Thickness Range:**

Base Metal: Growe 1,59-5,54 Fillet /

**Deposited Weld Metal:**

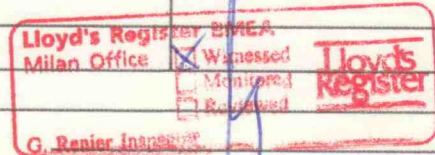
GTAW <3 mm each layer SMAW / SAW /

Pipe Dia Range : Growe 1" to less than 2,7/8" Fillet /

Other \_\_\_\_\_

**FILLER METALS (QW-404)**

	GTAW	SMAW	SAW
F-No.	51		
Other	C=0.01 H=0.0003 O=0.1 N=0.01 Fe=0.05		
A-No.			
Other	Brand Name: NIHON SIBER HEGNER KK		
Spec. No. (SFA)	5.16		
AWS No. (Class)	ERTi-2		
Size of filler metals	1,6 mm		
Electrode-Flux (Class)	TUNGS. THOR. 2%		
Flux Tradename	/	Type	
Consumable Insert	/		
Supplementary powered filler metal (Yes)	(No)	X	and amount



<b>POSITIONS (QW-405)</b>		<b>POSTWELD HEAT TREAT. (QW-407)</b>	
Position(s) of Groove	2G	Normalisa -Temp.range	N.A.
Welding Progressio :Up /	Down /	-Time range	"
Position(s) of Fillet	/	I.H.T. -Temp.range	"
		-Time range	"
<b>PREHEAT (QW-406)</b>		Final -Temp.range	"
Preheat Temp. Min.	N.A.	P.W.H.T. -Time range	"
Interpass Temp. Max.	N.A.		
Preheat Maintenance	N.A.	Other :	

<b>ELECTRICAL CHARACTERISTICS (QW-409)</b>		<b>GAS (QW-408)</b>	
Current AC or DC	DC Polarity STRAIGHT	Shielding Gas(es)	ARGON
Amps. (Range)	SEE TABL Volts (Range) SEE TAB	Percent Composition (mixtures)	99,99 % Ar.
Tungsten Electrode Size and Type 2,4 mm 2% THOR. TUNGSTEN			
Mode of Metal Transfer for GMAV	/	Flow rate	10-14 LITER/MINUTE
Electrode Wire feed speed range	/	Gas Backing	ARGON 99,99
Trailin Shielding Gas Composition			

TECHNIQUE (QW-410)	GTAW	SMAW	SAW
. 1 String or Weave Bead	STRING		
. 3 Orifice or gas cup size	10-12 mm		
. 7 Oscillation	/		
. 8 Contact tube to work distance	N.A.		
. 10 Multiple or single electrode	SINGLE		
Travel speed	see tab. *		
. 26 Peening	/		
. 15 Electrode spacing	/		
. 11 Vac. Atmosphere	/		
. 25 Manual or automatic	MANUAL		
. 5 Initial and interpass cleaning	BRUSHING		
. 6 Method of Back gauging	N.A.		
. 9 Multiple or single pass (per side)	SINGLE OR MULTIPLE		
Other	Gas shielding shall be maintained until metal temperature is less than 250 °C		

Weld Layer(s)	Process	Filler Metal		Current		Volt Range	Travel Speed Range *	Other
		Class	Dia.	Type Polar.	Amp. Range			
1	GTAW	ERTI-2	1,6	STRAIGHT	70-80	12-14	0,4-1	
OTHERS	"	"	" mm	"	90-100	13-16	08-1,5 mm/sec	

Lloyd's Register EMEA  
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 Reviewed  
 G. Renier Inspector

Signature  
 WPS 390/2  
 COMEPRES S.R.L.  
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Date, 16/09/93