



KAILCO INTERNATIONAL

Plot No.149, Sector-2, Pocket-L, DSIDC Industrial Area, Bawana,

North West Delhi, Delhi-110039

WELDING PROCEDURE SPECIFICATION (WPS)

(Section IX, ASME Boiler and Pressure Vessels Code)

Contract Name:- KAILCO INTERNATIONAL		Dated	
WPS NO. :	KAILCO/WPS/04 Rev 0	Dated :	24.04.2024
Supporting PQR NO. :	KAILCO/PQR/04 Rev 0	Dated :	24.04.2024
Welding Process :	GTAW	Types :	Manual
JOINTS (QW - 402)			
Joint Design (QW402.1) :	Single V		
Backing (QW402.4) :	NO		
Backing Material (Type) :	NO		
BASE METAL (QW - 403)			
P.No.:-	1	Group No.:-	1 to P. No. 1 Group No. 1,2
OR			
Specification Type & Grade:	SA 179		
to Specification Type & Grade:	SA 179		
OR			
Chemical Analysis & Mechanical Analysis:	N.A.		
TO			
Chemical Analysis & Mechanical Analysis:	N.A.		
Thickness Range (QW451.1) :			
Base Metal : Plate	Groove: 1.5 mm to 6 (max.)	Fillet :	All fillet sizes on all base metal thickness and on all diameters.
Pipe Dia Range: All	Groove: 1.5 mm to 6 (max.)		
Maximum Pass Thickness $\leq \frac{1}{2}$ Inch (13MM) :	Yes		
Filler Metal (QW - 404)			
Process :	GTAW		
Weld Layer(s) :	All Layers		
Specification No. :	ER 70S-2		
AWS NO. (Class) :	SFA 5.18		
F. No. :	6		
A. No. :	1		
Size of Filler Metals :	Ø 2.4 m.m.		
Weld Metal Thickness Range :			
Groove :	1.5 MM - 6.0 m.m (Max.)		
Fillet :	All Size		
Electrode Flux (Class) :	N.A.		
Flux - Trade Name :			
Consumable Insert :	N.A.		
Filler Metal Product Form :			
Others :			
POSITION (QW - 405)		POST WELD HEAT TREATMENT (QW - 407)	
Position of Groove:	Any	Loading Temp.	N/A
Welding Progression:	NA	Heating Rate.	N/A
Position of Fillet:	All	Soaking Temp.	N/A
		Soaking Time	N/A
		Cooling Media	N/A
		Batch No.	N/A





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PREHEAT (QW - 406)		GAS (QW - 408) for GTAW				
Preheat Temp. (Min) :	30 °C	Percent Composition				
Interpass Temp. (Max) :	180 °C	Gas	Mixture			
Preheat Maintenance	NA	Shielding	Flow Rate			
		Argon	99.90%			
		Trailing	08-10 LPM			
		Backing (Purging)	-			
ELECTRICAL CHARACTERISTIC (QW-409)						
Current :	As per table	Amps (Range) :	As per table			
Polarity :	As per table	Volts (Range) :	As per table			
Tungsten Electrode size & type :	2.4 MM , 2% Thoriated Tungsten					
Mode of Metal Transfer for GMAW :	N.A.					
TECHNIQUE (QW-410)						
String or Weave Bead :	Root String, Other Weaving					
Orifice or Gas Cup Size :	N.A.					
Initial & Inter pass cleaning (Brushing & Grinding) :	Chipping, Wire Brushing & Grinding					
Method of Back Gouging :	Grinding					
Oscillation :	N.A.					
Contract Tube to work Distance :	N.A.					
Multiple or Single pass (per side):-	Multiple					
Multiple or Single Electrode :	Single					
Travel Speed Range :	As per Table					
Peening :	Not permitted					
Others :	Nil					
Weld Layers	Process	Filler Metal	Current	Volts Range	Travel Speed In mm/min.	Heat Input KJ/mm (Max.)
		Class	Dia	Type Polarity	Amp Range	
Root	GTAW	SFA 5.18 ER 70S-2	Ø 2.40 mm	DCEN	95-100	11 - 14.
Capping		SFA 5.18 ER 70S-2	Ø 2.4 mm	DCEN	100-115	11 - 14.
						80-90
						80-100
						0.933
						0.966
We certify that the statements in this record are correct and that the test coupons were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.						
 Authorized Signature KAILCO INTERNATIONAL		 Inspection Authority TUV India Pvt. Ltd.				