



Welding Procedure Specification (WPS)										
MANUFACTURER		Mech-Tem (PTY) Ltd						Page 1 of 2		
WPS No.		W004-25			PQR No.		P004-25			
CODE AND YEAR EDITION		ASME BPVC IX:2023								
DATE		2025/06/06								
REVISION		00								
Base Metals										
MATERIAL GRADE 1		ASTM A240M(21) ASME SA240M(21) 316/L			GROUP No.		Any P8 Group 1			
MATERIAL GRADE 2		ASTM A240M(21) ASME SA240M(21) 316/L			GROUP No.		Any P8 Group 1			
MATERIAL THICKNESS QUALIFIED		3.0mm to 32.0mm - Groove welds/Unlimited-Fillet welds								
BACKING MATERIAL		With or without backing, Weld metal (back Grinding)								
PIPE OUTSIDE DIAMETER		All diameters								
TYPE OF JOINTS		Single V groove / Double V groove / Fillet Welds								
FILLER METALS										
NUMBER OF PROCESSES		One								
PROCESS		Gas Metal Arc Welding (GMAW)								
PROCESS TYPE		Semi Auto								
FILLER SPEC. (SFA)		AWS SFA 5.9								
FILLER CLASS No. (AWS)		ER-308LSi								
FILLER F No.		F6								
FILLER A No./CHEM		A8								
DEPOSITED WELD THICKNESS		Less or Equal to 32.0mm Groove welds/ Unlimited Fillet Welds								
TRADE NAME		Not applicable								
FILLER SIZE		1.2mm								
SUPPLEMENTAL FILLER		Not applicable								
PREHEAT AND INTERPASS TEMPRATURE					SHIELDING GAS					
PREHEAT TEMP.		10.0°C			GAS TYPE		Coogar SP			
HEAT METHOD		None			% COMP		Ar- 98% / Co2- 0%/ O2- 2%			
TEMPERATURE CHECK		Digital thermometer			FLOW RATE		10-20 Liter per minute			
INTERPASS TEMPERATURE		180° C Maximum			ORIFICE		Any Suitable size			
HEAT AREA		75mm each side of weld			TRAILING GAS		None			
PREHEAT MAINTANCE		None			BACKING GAS		None			
OTHER		None			FLOW RATE		None			
JOINT DESIGN										
PREPERATION METHODE		Any suitable method			MAX RUN THICKNESS		4.0mm			
INITIAL CLEAN		Grind or brush			GOUGE METHOD		Back Grinding to sound metal			
BACK GOUGING		As required			INTERPASS CLEAN		Grind/Brush			
ELECTRICAL CHARACTERISTICS										
PROCESS	WELD PASS NO.	CONSUMABLE TYPY	FILLER SIZE	WELD POSITION	AMPS (A)	VOLTS (V)	TRAVEL SPEED (mm/min)	PROGRESS	TYPE AND POLARITY	HEAT INPUT (kJ/MM)
GMAW	1-X	ER308LSi	1.2mm	Flat and Horizontal	166-194	20.5-26.7	As required	Not applicable	DCEP	2.0 Max



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WELDING TECHNIQUE					
SINGLE/MULTI ELECTRODE	Single	SOLID/TUBULAR WIRE	Solid	PEENING	None
SINGLE/MULTI PASS	Single or Multi Pass	ELECTRODE SPACE	N/A	C.T.W.D.	Any suitable distance
SIDES WELDED	One side or Both sides	TRANSFER MODE	Short circuit	TUNGSTEN TYPE	N/A
STRING/WEAVE BEAD	Stringer	OSCILLATION	N/A	TUNGSTEN SIZE	N/A
POWER SOURCE	Not Indicated by ASME IX	WIRE FEED SPEED	Amperage Controlled		
POST-WELD HEAT TREATMENT					
HEATING RATE	None	COOLING RATE	None		
HOLDING TEMPERATURE	None	METHOD	None		
HOLDING TIME	None	PWHT CERT No.	None		
NON-DESTRUCTIVE EXAMINATION					
RADIOGRAPHY	As per QCP				
ULTRASONIC	As per QCP				
MAGNETIC PARTICAL	As per QCP				
DYE PENETRANT	As per QCP				
VISUAL	As per QCP				
NOTES:	MANUFACTURER:		COMPILED BY: AMH Quality Services		
REMARKS:	SIGNATURE:		SIGNATURE: AMH Quality Services <i>Adrius Harmse (ANDT Level 2)</i>		
	DATE:		DATE: 2025/06/19		