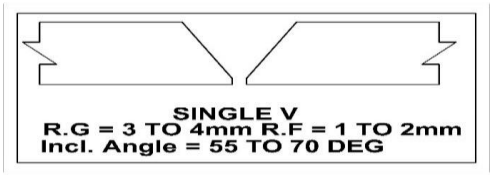
VISHAL ENTERPRISE & VRISHAL ENGINEERING PRIVATE LIMITED GROUP OF COMPANIES

WELDING PROCEDURE SPECIFICATION (As per AWS D1.6)

WELDING PROCEDURE SPEC. NO. : VEPL/WPS/13	**REV NO. 00**	**DATE : 06.12.2022**
SUPPORTING PQR NO.: VEPL/PQR/13	**REV NO. 00**	**DATE : 06.12.2022**
WELDING PROCESS: GTAW	**TYPE: MANUAL**	

JOINT DESIGN	
GROOVE DESIGN	AS PER FIGURE (For PQR : Single V)
BACKING	NO FOR ROOT / YES FOR REST
BACKING MATERIAL	BASE / WELD METAL
ROOT SPACING	3 - 4 mm
ROOT FACE	1-2 mm
GROOVE ANGLE	AS PER FIGURE

POSITION	
TEST PLATE POSITION	6G
QUALIFIED POSITION FOR GROOVE	ALL
VERTICAL PROGRESSION	UPHILL



BASE METALS	
MATERIAL SPEC. & GROUP	SA 106 GR.B, or Equivalent to SA 312 TP316L or Equivalent (Group - I to B)
TEST PLATE THICKNESS	6.02 mm
QUALIFIED THICKNESS	2 mm to 12.04
FILLET	Any

PREHEAT/INTERPASS TEMPERATURE		
THICKNESS (mm)	**PREHEAT TEMPERATURE**	**INTERPASS TEMPERATURE**
Any	10°C	175°C

PREHEAT METHOD

PREHEAT SHALL BE CHECKED WITHIN 75mm FROM EACH SIDE OF THE WELD AND

FILLER METALS	
AWS SPECIFICATIONS	SFA 5.9
AWS CLASSFICATION	ER 309L

POST WELD HEAT TREATMENT	
METHOD OF PWHT	NA
SOAKING TEMP. (°C)	NA
SOACKING PERIOD (Minutes)	NA
OTHERS	NA

GAS	**SHIELDING GAS**	**BACKING GAS**
WELD PROCESS	GTAW	GTAW
TYPE OF GAS	ARGON	ARGON
COMPOSITION	99.998%	99.998%
FLOW RATE (LPM)	5-15	10-30

ELECTRICAL CHARACTERISTICS	
TRANSFER MODE(GMAW)	NA
SHORT CIRCUITING	NA
WELD PROCESS	GTAW
CURRENT	DC
POLARITY	EN
OTHER	NA

TECHNIQUE	
WELD PROCESS	GTAW
STRING OR WEAVE BEAD	STRING / WEAVING
MULTIPASS OR SINGLE PASS	SINGLE
NUMBER OF ELECTRODE	SINGLE
CONTACT TUBE TO WORK DISTANCE	NA
PEENING	NO
FLUX DETAILS	NA
INTERPASS CLEANING	SS GRINDING / WIRE BRUSHING
TACK WELD TECHNIQUE	SAME AS WITH ROOT PASS
TACK LENGTH	REFER NOTE 1

PASS or WELD LAYER(s)	**WELDING PROCESS**	**FILLER METALS**		**CURRENT & POLARITY**	**AMPS**	**VOLTS**	**TRAVEL SPEED (mm/min)**	**HEAT INPUT (kJ/mm) Max.**
		CLASS	**DIA. (mm)**					
ROOT PASS	GTAW	ER 309L	1.6 / 2.5	DCEN	70-100	9-16	50-90	2.00
HOT PASS	GTAW	ER 309L	1.6 / 2.5	DCEN	90-150	9-16	55-100	2.00
FILLUP PASSES	GTAW	ER 309L	1.6 / 2.5	DCEN	100-150	9-16	60-100	2.00
CAPPING PASSES	GTAW	ER 309L	1.6 / 2.5	DCEN	100-150	9-16	55-100	2.00

NOTE :

1. 100 mm OR 4 times the thickness whichever is less, with a min. throat size of 6mm - 2 Pass maximum
2. The Inter pass Temperature shall be measured on the welding pass. In case if it is not possible, it shall be nearest possible.
3. This WPS can be used for Repair also and Repair welding shall be done as per the approved procedure.
4. WEP cleaning shall be done just before the start of welding.
5. This WPS is applicable for V-GROOVE, SINGLE BEVEL, FILLET & Their Combination.

	PREPARED BY	**APPROVED BY**
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SIGNATURE	Bairagi	VISHAL ENTERPRISE QA/QC
DATE	06.12.2022	06.12.2022