



# VISHAL ENTERPRISE & VRISHAL ENGINEERING PVT.LTD. GROUP OF COMPANIES

## WELDING PROCEDURE SPECIFICATION

(As per AWS D1.1)

WELDING PROCEDURE SPEC. NO. : VEPL/WPS/006		REV NO. 01	DATE : 23.12.2024						
SUPPORTING PQR NO.: VEPL/PQR/006		REV NO. 00	DATE : 08.09.2022						
WELDING PROCESS: FCAW		TYPE: SEMI-AUTOMATIC							
JOINT DESIGN									
GROOVE DESIGN	AS PER APPROVED AFC DRAWING (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 APPROVED DRAWING / WELD BOOK								
BASE METALS									
MATERIAL SPEC. & GROUP	IS2062 E350 Gr.BR/C, or IS2062 R250 Gr. BO/BR/A or Equivalent								
TEST PLATE THICKNESS	25 mm								
QUALIFIED THICKNESS	3 mm to Unlimited								
FILLET	Any								
FILLER METALS		POSITION							
AWS SPECIFICATIONS	SFA 5.20	PQR TEST PLATE POSITION							
AWS CLASSIFICATION	E71T-1C	QUALIFIED POSITION FOR GROOVE							
		VERTICAL PROGRESSION							
POST WELD HEAT TREATMENT		PREHEAT/INTERPASS TEMPERATURE (As per table 5.8 of AWS D1.1)		PREHEAT METHOD					
NA		THICKNESS	≤ 38	>38 to 65					
		PREHEAT TEMPERATURE	10°C	65°C					
SHIELDING GAS		INTERPASS TEMPERATURE, Max.	250°C						
TYPE OF GAS	CO2								
COMPOSITION	100%	TECHNIQUE							
FLOW RATE (LPM)	10-20	STRING OR WEAVE BEAD							
GAS CUP SIZE	NA	MULTIPASS OR SINGLE PASS							
ELECTRICAL CHARACTERISTICS		NUMBER OF ELECTRODE							
TRANSFER MODE(GMAW)	NA	CONTACT TUBE TO WORK DISTANCE							
SHORT CIRCUITING	NA	PEENING							
CURRENT	DC	INTERPASS CLEANING							
POLARITY	DCEP	GRIND / WIRE BRUSHING							
OTHER	NA	TACK WELD TECHNIQUE							
		SAME AS WITH ROOT PASS							
		REFER NOTE 1							
PASS OR WELD LAYER	WELDING PROCESS	FILLER METALS		ELECTRODE RUNOUT LENGTH MINIMUM (mm)	TRAVEL SPEED mm/min (Min.)	HEAT INPUT kJ / mm (Max.)			
		CLASS	DIA. mm				TYPE OF POLARITY	AMPS	
ROOT PASS / BACK CHIP	FCAW	E71T-1C	1.20	DCEP	130-200	20-30	50	100-180	2.5
HOT PASS	FCAW	E71T-1C	1.20	DCEP	130-200	20-30	50	100-180	2.5
FILL UP	FCAW	E71T-1C	1.20	DCEP	130-220	20-30	50	120-180	2.5
CAPPING	FCAW	E71T-1C	1.20	DCEP	130-220	20-30	50	120-180	2.5
NOTE :									
1) 50 mm OR 4 times the thickness whichever is less, with a min. throat size of 6mm - 2 Pass maximum									
2) Pre-heating shall be strictly followed for tacking also									
3) Weaving should not exceed 2.5 times of electrode									
PREPARED BY				APPROVED BY					
NAME	SHIVANG DIWAKAR			HARDIK PRAJAPATI					
SIGNATURE									
DATE	23.12.2024			23.12.2024					