



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. 00	DATE : 08.09.2022						
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 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								
BASE METALS									
MATERIAL SPEC. & GROUP	IS2062 E350 Gr.C / E250 BO/BR/A, or Equivalent (Group -II to II)								
TEST PLATE THICKNESS	25 mm								
QUALIFIED THICKNESS	3 mm to Unlimited								
FILLET	Any								
FILLER METALS		POSITION							
AWS SPECIFICATIONS	SFA 5.20		TEST PLATE POSITION						
AWS CLASSIFICATION	E71T-1C		QUALIFIED POSITION FOR GROOVE						
		VERTICAL PROGRESSION		ALL					
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		SIGNLE					
TRANSFER MODE(GMAW)	NA		CONTACT TUBE TO WORK DISTANCE						
SHORT CIRCUITING	NA		PEENING						
CURRENT	DC		INTERPASS CLEANING						
POLARITY	DCEP		TACK WELD TECHNIQUE						
OTHER	NA		TACK LENGTH						
PASS OR WELD LAYER	WELDING PROCESS	FILLER METALS		CURRENT	VOLTS (V)	ELECTRODE RUNOUT LENGTH MINIMUM (mm)	TRAVEL SPEED mm/min (Min.)	HEAT INPUT kJ / mm (Max.)	
		CLASS	DIA. mm						TYPE OF POLARITY
ROOT PASS	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

NAME	PREPARED BY Y BAIRAGI	APPROVED BY HARDIK PRAKAPATI
SIGNATURE		
DATE	08.09.2022	08.09.2022