



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

WELDING PROCEDURE SPECIFICATION (As per AWS D1.1)

WELDING PROCEDURE SPEC. NO. : VEPL/WPS/02	REV NO. 01	DATE : 28.07.2022							
SUPPORTING PQR NO.: VEPL/PQR/02	REV NO. 00	DATE : 12.02.2019							
WELDING PROCESS: FCAW	TYPE: SEMI-AUTOMATIC								
JOINT DESIGN									
GROOVE DESIGN	AS PER FIGURE								
BACKING	NO 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.	A516 Gr70/60, A573 Gr.70, A283 Gr.C, A106 Gr.B, A105, A53Gr B, IS2062 E350 / 250 or Equivalent								
TEST PLATE THICKNESS	20 mm								
QUALIFIED THICKNESS	3 mm to 40 mm								
FILLET	Any								
FILLER METALS									
AWS SPECIFICATIONS	SFA 5.20								
AWS CLASSIFICATION	E 71T-1C								
POST WELD HEAT TREATMENT									
PREHEAT/INTERPASS TEMPERATURE (AS PER TABLE 3.2 OF AWS D1.1)									
NA	THICKNESS	≤ 38	>38 to 50	PREHEAT SHALL BE CHECKED AT A DISTANCE OF 3" OR 3 TIMES THE THICKNESS WHICHEVER IS GREATER FROM THE WELD TOE AND THROUGH THE THICKNESS					
SHIELDING	PREHEAT TEMPERATURE	21°C	65°C						
TYPE OF GAS	CO ₂	INTERPASS TEMPERATURE	250°C						
COMPOSITION	100%	TECHNIQUE							
FLOW RATE (LPM)	20-35	STRING OR WEAVE BEAD	STRING / WEAVE						
GAS CUP SIZE	12-20 mm	MULTIPASS OR SINGLE PASS	MULTIPASS						
ELECTRICAL CHARACTERISTICS			SIGNLE						
TRANSFER MODE(GMAW)	NA	CONTACT TUBE TO WORK DISTANCE	10-25 mm						
SHORT CIRCUITING	NA	PEENING	NO						
CURRENT	DC	INTERPASS CLEANING	GRIND / WIRE BRUSH						
POLARITY	DCEP	TACK WELD TECHNIQUE	SAME AS WITH ROOT PASS						
OTHER	NA	TACK LENGTH	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 (Min. - Max.)			
		CLASS	DIA. mm				TYPE OF POLARITY	AMPS	
ROOT PASS	FCAW	E71T-1C	1.20	DCEP	140-230	22-28	50	200-350	1.93 Max
HOT PASS	FCAW	E71T-1C	1.20	DCEP	140-230	22-28	50	200-350	1.93 Max
REST	FCAW	E71T-1C	1.20	DCEP	140-230	22-28	50	200-350	1.93 Max
NOTE :									
1) 100 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	ASHISH NAGAR				HARDIK PRAJAPATI				
SIGNATURE									QA/QC
DATE	18.07.2022				28.07.2022				