

		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					<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 10px; text-align: center;"> SINGLE BEVEL R.G = 3 TO 4mm R.F = 1 TO 2mm Incl. Angle = 40 TO 45 DEG </div> <div style="border: 1px solid black; padding: 10px; text-align: center;"> SINGLE V R.G = 3 TO 4mm R.F = 1 TO 2mm Incl. Angle = 55 TO 70 DEG </div> </div>				
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			2G,3G & 4G	
AWS CLASSIFICATION		E71T-1C			QUALIFIED POSITION FOR GROOVE			ALL	
					VERTICAL PROGRESSION			UPHILL	
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 SHALL BE CHECKED AT A DISTANCE OF 3" OR 3 TIMES THE THICKNESS WHICHEVER IS GREATER FROM THE WELD TOE AND THROUGH THE THICKNESS
					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			STRING / WEAVER	
GAS CUP SIZE		NA			MULTIPASS OR SINGLE PASS			MULTIPASS	
ELECTRICAL CHARACTERISTICS					NUMBER OF ELECTRODE			SIGNLE	
TRANSFER MODE(GMAW)		NA			CONTACT TUBE TO WORK DISTANCE			15-25 mm	
SHORT CIRCUITING		NA			PEENING			NA	
CURRENT		DC			INTERPASS CLEANING			GRIND / WIRE BRUSHING	
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		CURRENT		VOLTS (V)	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 D WAKAR				HARDIK PRAJAPATI			
SIGNATURE		 				 			
DATE		23.12.2024				23.12.2024			