
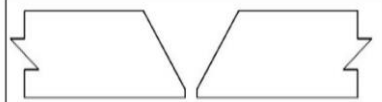




VISHAL ENTERPRISE & VRISHAL ENGINEERING PVT.LTD. GROUP OF COMPANIES

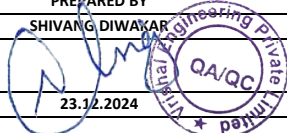

WELDING PROCEDURE SPECIFICATION

(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><div><p>SINGLE BEVEL R.G = 3 TO 4mm R.F = 1 TO 2mm Incl. Angle = 40 TO 45 DEG</p></div><div><p>SINGLE V R.G = 3 TO 4mm R.F = 1 TO 2mm Incl. Angle = 55 TO 70 DEG</p></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 Equivalent | | | | | | | | | |
| TEST PLATE THICKNESS | 25 mm | | | | | | | | | |
| QUALIFIED THICKNESS | 3 mm to Unlimited | | | | | | | | | |
| FILLET | Any | | | | | | | | | NOTE: WELD DESIGN WILL BE CONSIDERED AS PER THE APPROVED DRAWINGS ONLY. |
| 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 WEAWE BEAD | | | STRING / WEAIVING | | | |
| 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 :

- 50 mm OR 4 times the thickness whichever is less, with a min. throat size of 6mm - 2 Pass maximum
- Pre-heating shall be strictly followed for tacking also
- Weaving should not exceed 2.5 times of electrode

| | | | |
|-------------|---|-------------|---|
| PREPARED BY | | APPROVED BY | |
| NAME | SHIVANG DIWAKAR | NAME | HARDIK PRAMAPATI |
| SIGNATURE |  | SIGNATURE |  |
| DATE | 23.12.2024 | DATE | 23.12.2024 |