



| Welding Procedure Specification (WPS) | | | | | | | | | | |
|---------------------------------------|---------------|--|-------------|---------------------|-------------------|-----------|------------------------------|----------------|-------------------|--------------------|
| MANUFACTURER | | Mech-Tem (PTY) Ltd | | | | | | Page 1 of 2 | | |
| WPS No. | | W002-25 | | | PQR No. | | P002-25 | | | |
| CODE AND YEAR EDITION | | ASME BPVC IX:2023 | | | | | | | | |
| DATE | | 2025/06/06 | | | | | | | | |
| REVISION | | 00 | | | | | | | | |
| Base Metals | | | | | | | | | | |
| MATERIAL GRADE 1 | | BS EN 10025-2 S355JR / ASME SA516 GRD 60,65,70 / SA106 GRD "B" | | | GROUP No. | | P1 Group 1/2 | | | |
| MATERIAL GRADE 2 | | BS EN 10025-2 S355JR / ASME SA516 GRD 60,65,70 / SA106 GRD "B" | | | GROUP No. | | P1 Group 1/2 | | | |
| MATERIAL THICKNESS QUALIFIED | | 3.0mm to 32.0mm - Groove welds/Unlimited-Fillet welds | | | | | | | | |
| BACKING MATERIAL | | With or Without backing | | | | | | | | |
| PIPE OUTSIDE DIAMETER | | All Diameters | | | | | | | | |
| TYPE OF JOINTS | | Single V groove / Double V groove / Fillet Welds | | | | | | | | |
| FILLER METALS | | | | | | | | | | |
| NUMBER OF PROCESSES | | One | | | | | | | | |
| PROCESS | | Gas Metal Arc Welding (GMAW) | | | | | | | | |
| PROCESS TYPE | | Semi Auto | | | | | | | | |
| FILLER SPEC. (SFA) | | AWS SFA 5.18 | | | | | | | | |
| FILLER CLASS No. (AWS) | | ER70S-6 | | | | | | | | |
| FILLER F No. | | F6 | | | | | | | | |
| FILLER A No./CHEM | | A1 | | | | | | | | |
| DEPOSITED WELD THICKNESS | | Less or Equal to 32.0mm Groove welds/ Unlimited Fillet Welds | | | | | | | | |
| TRADE NAME | | Not applicable | | | | | | | | |
| FILLER SIZE | | 1.2mm | | | | | | | | |
| SUPPLEMENTAL FILLER | | Not applicable | | | | | | | | |
| PREHEAT AND INTERPASS TEMPRATURE | | | | | SHIELDING GAS | | | | | |
| PREHEAT TEMP. | | 10.0°C | | | GAS TYPE | | Argoshield 5 | | | |
| HEAT METHOD | | None | | | % COMP | | Ar- 93% / Co2- 5%/ O2- 2% | | | |
| TEMPERATURE CHECK | | Digital thermometer | | | FLOW RATE | | 18-30 Liter per minute | | | |
| INTERPASS TEMPERATURE | | 275° C Maximum | | | ORIFICE | | Any Suitable size | | | |
| HEAT AREA | | 75mm each side of weld | | | TRAILING GAS | | None | | | |
| PREHEAT MAINTANCE | | None | | | BACKING GAS | | None | | | |
| OTHER | | None | | | FLOW RATE | | None | | | |
| JOINT DESIGN | | | | | | | | | | |
| | | | | | | | | | | |
| PREPERATION METHODE | | Any suitable method | | | MAX RUN THICKNESS | | 4.0mm | | | |
| INITIAL CLEAN | | Grind or brush | | | GOUGE METHOD | | Back Grinding to sound metal | | | |
| BACK GOUGING | | As required | | | INTERPASS CLEAN | | Grind/Brush | | | |
| ELECTRICAL CHARACTERISTICS | | | | | | | | | | |
| PROCESS | WELD PASS NO. | CONSUMABLE TYPY | FILLER SIZE | WELD POSITION | AMPS (A) | VOLTS (V) | TRAVEL SPEED (mm/min) | PROGRESS | TYPE AND POLARITY | HEAT INPUT (kJ/MM) |
| GMAW | 1-X | ER70S-6 | 1.2mm | Flat and Horizontal | 215-280 | 21-28 | As required | Not applicable | DCEP | 2.0 Max |



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| MANUFACTURER | | Mech-Tem (PTY) Ltd | | | Page 2 of 2 |
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| CODE AND YEAR EDITION | | ASME BPVC IX:2023 | | | |
| DATE | | 2025/06/06 | | | |
| REVISION | | 00 | | | |
| WELDING TECHNIQUE | | | | | |
| SINGLE/MULTI ELECTRODE | Single | SOLID/TUBULAR WIRE | Solid | PEENING | None |
| SINGLE/MULTI PASS | Single or Multi Pass | ELECTRODE SPACE | N/A | C.T.W.D. | Any suitable distance |
| SIDES WELDED | One side or Both sides | TRANSFER MODE | Globular and Spray | TUNGSTEN TYPE | N/A |
| STRING/WEAVE BEAD | Stringer | OSCILLATION | N/A | TUNGSTEN SIZE | N/A |
| POWER SOURCE | Not Indicated by ASME IX | WIRE FEED SPEED | Amperage Controlled | | |
| POST-WELD HEAT TREATMENT | | | | | |
| HEATING RATE | None | COOLING RATE | None | | |
| HOLDING TEMPERATURE | None | MATHOD | None | | |
| HOLDING TIME | None | PWHT CERT No. | None | | |
| NON-DESTRUCTIVE EXAMINATION | | | | | |
| RADIOGRAPHY | As per QCP | | | | |
| ULTRASONIC | As per QCP | | | | |
| MAGNETIC PARTICAL | As per QCP | | | | |
| DYE PENETRANT | As per QCP | | | | |
| VISUAL | As per QCP | | | | |
| NOTES: | MANUFACTURER: | | COMPILED BY: AMH Quality Services | | |
| REMARKS: | SIGNATURE: | | SIGNATURE: AMH Quality Services <i>Andrey Harmse (ANDT Level 2)</i> | | |
| | DATE: | | DATE: 2025/06/19 | | |