STOLZ-MIRAS (VIETNAM), LTD.

# WELDING PROCEDURE SPECIFICATION (WPS) (EN ISO 15609-1)

Welding Procedure Specification: **SM-GT-P8P8-03**
WPQR No. : **SM-PQR-GT-P8P8-03**
Manufacturer : **STOLZ MIRAS VIET NAM CO., LTD.**
Welding Process: **141**
Mode of metal transfer: **- - -**
Joint Type : **FW**
Method of Preparation and Cleaning: **Brushing & Grinding**

Rev.: **0**
Parent Material Designation: **ASTM A240, 304L**
Material Thickness (mm): **BW, Single run: - - -**
**BW, Multi-run: - - -**
**FW: 3 – 20**
Outside Diameter (mm): **> 500: Fixed pipe**
**> 150: Rotated pipe in PA, PC, PF**
Welding Position: **All positions except PG, PJ and J-L045**

Weld Preparation Details (Sketch)*

| Joint Design | Welding Sequences |
|---|---|
| Refer to attachment or as per shop drawing | Refer to attachment or as per shop drawing |

Welding Details

| Run | Welding Process | Size of Filler Material | Current (A) | Voltage (V) | Type of Current/ Polarity | Wire Feed Speed | Run out length/Travel Speed * (mm/min.) | Heat Input * (kJ/mm) |
|---|---|---|---|---|---|---|---|---|
| 1 (Root) | 141 | 2.4 | 100 - 150 | 11 - 12 | DCEN | - | 80-160 | 0.35 - 0.76 |
| 2-n (Fill &Cap) | 141 | 2.4 | 100 - 150 | 11 - 12 | DCEN | - | 80-160 | 0.35 - 0.76 |

Filler material designation and make: **MENAM, ER 308L**
Any Special Baking or Drying: **None**
Designation Gas/ Flux: Shielding: **100% Argon**
Backing: **100% Argon**
Gas Flow Rate: Shielding: **10 – 15 l/min**
Backing: **5 – 10 l/min**
Tungsten Electrode Type/ Size: **Wth20 / Ø 2.4mm**
Details of Back Gouging/Backing: **- - -**
Preheat Temperature: **Ambient temp.**
Interpass Temperature: **≤ 150 $^0$C**
Post-Weld Heat Treatment and/or Ageing: **N.A**
Time, Temperature, Method: **- - -**
Heating and Cooling Rates *: **- - -**

Other Information * e.g.:
Weaving (maximum width of run): **- - -**
Oscillation: amplitude, frequency, dwell time: **- - -**
Pulse welding details: **- - -**
Distance contact tube/work piece: **5 – 7mm**
Plasma welding details: **N.A.**
Torch angle: **65 - 70$^0$**

**STOLZ MIRAS VIET NAM**

Name: WIBAUX Quentin
Signature:

Date: **12 Sep, 2019**

**METECHCO ASIA**

Name: NGUYEN DUC THIEN PHUC
Signature:

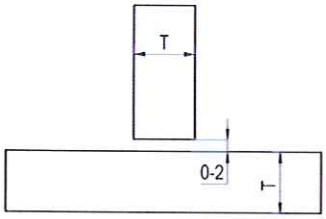
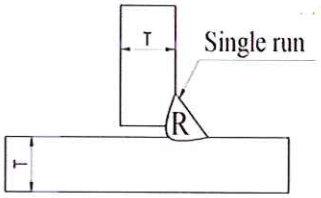
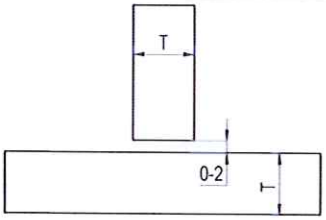
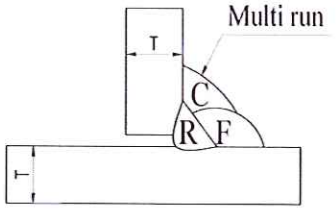
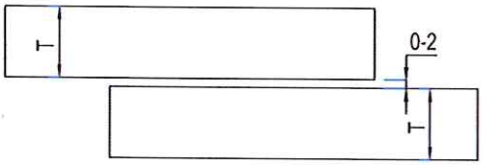
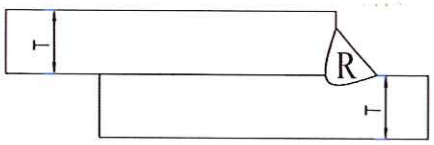
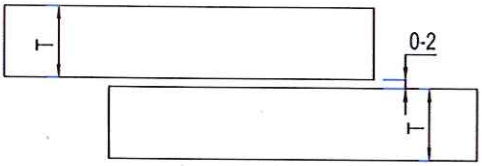
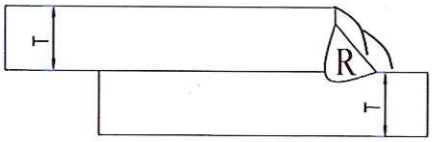
INTERNAL & EXTERNAL QUALITY ASSURANCE
VISA
METECHCO ASIA

Date: **12 Sep, 2019**

* If required

WPS No.: **SM-GT-P8P8-03**
Rev.: 0

# Attachment

| No | Joint Design | Weld sequence | |
|---|---|---|---|
| 1 T-joint |  |  | Fillet weld Single run |
| 2 T-joint |  |  | Fillet weld Multi run |
| 3 Lap joint |  |  | Fillet weld Single run |
| 4 Lap joint |  |  | Fillet weld Multi-run |

**Note:**

1. **T – Thickness range as qualified by this WPS**