

WELDING PROCEDURE SPECIFICATION

CT-05/1

(see EN288-2)

Manufacturer: **Cleveland Steel & Tubes Limited** Location: **Dalton Shop**
 WPAR No: **CT-05** Parent Metal Spec: **API5L X65**
 Welding Process: **135 - (MAG)** Material thickness: **12.7- 50.mm**
 12 - (Sub Arc) Outside Diameter: **168-1524mm**
 Joint Type: **Butt** Welding Position: **downhand**
 Method of Preparation and Cleaning: **Flame cut grind and wire brush**



Welding Parameters

Run	Process	Size of Filler Material	Current Amp	Voltage V	Type of current/polarity	Travel Speed mm/sec	Heat Input Q kJ/mm
1	MAG	1.2mm	170/190	18	DC+	150	1.3
2	MAG	1.2mm	260/300	18	DC+	150	1.3
3+	Sub Arc	3.2/3.6mm	420/450	31	DC+	380	2.7
Cap Runs	Sub Arc	3.2/3.6mm	480/520	31	DC+	360	3.2

Welding Consumables:

Welding wire: **Autal SG2 Goldmatic**
 Oerlikon OES2
 Shielding Gas: **50/20 CO2/Ar**
 Flux: **Oerlikon OP192**

Hydrogen Scale:

MAG **C**
 Sub Arc **C**

Parent Metal:

Steel CEV: **>=0.5 max.**
 Combined thickness: **<60MM**

Backing strip: **Ceramic**

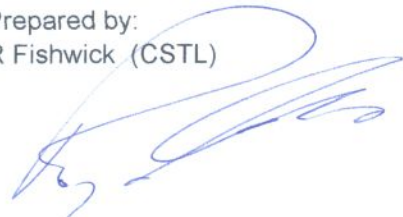
Welding Process

MAG Oscillation- amplitude **0-18'**
 frequency **126**
 start dwell time **0.7**
 150.mm

PROCESS CONTROL NOTES:

- 1 Minimum seam butt welds off set. **150.mm**
- 2 Ensure draft free environment prior to preheat and welding.
- 3 Preheat prior to tack welding. **>50C**
- 4 Visually inspect tack welds for cracks and other defects, prior to full welding.
- 5 Do not lift pipes that are only held by the tack welds.
- 6 Ensure preheat is applied and maintained before hot and subsequent passes. **>50C**
- 7 Use digital thermometer or similar approved device to check Interpass temperature/s. **<250 C**
- 8 Consumable control to be strictly in accordance with the manufactures data sheets and above welding parameters.
- 9 Dogs to be ground not hammered off.
- 10 Heating/Cooling Rates: **N/A**
- 11 Post Weld Treatment: **None**

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