

WPS Number: WPS/MGE/FW/001	Revision: 0	Date: 30/11/2017
WPQR Number: Welder Qualification Test Covers WPS	Project: Various.	
Specification(s): Various.	Code(s): ISO 9606-1:2013 / ISO 15614-1:2004+A2:2012	

JOINT DESIGN & WELDING SEQUENCE				ISO 15614:2004 +A2:2012 INFORMATION	
Prep: Machined / degreased	Inclusive angle: (a)	See below		Base Metal:	X5CrNi 18-10 / A304/A304L Stainless Steels
Root Face: (f) -	Root Gap: (g)	0.0 – 1.0mm		Base Metal Thickness Range (t):	6mm – 24mm
<p style="text-align: center;"><b>Multi-Layer and Single-Layer</b></p>				Weld Metal Thickness Range:	Throat Thickness 3mm to 12mm ( a ) Leg Length 4mm to 16mm ( z )
				Diameter:	30.25mm and above
				Positions:	PB Horizontal Vertical / PA Flat
				Notes:	1) Amps, volts & travel speed +/-10% 2) Heat input calculated as per ISO 1011-1:2009. 3) Any filler size compliant with stated welding characteristics and heat input range may be used. 4) Single electrode only. 5) Metal Transfer Mode: Root: Dip Transfer (D) / Fill & Cap: Globular (G), Spray (S) or Pulsed Spray Transfer (P). 6) NDT As Per Contract Requirements. 7) <b>Visually inspect all welds.</b>
				<b>Fillet Weld: MAG (135) 308LSi Filler Wire.</b>	

WELDING TECHNIQUE	
Welding Process: MAG (135)	Preparation: Machine / Grind as required
Inter-run / Post Cleaning: Wire brush / Grinder	Bead Type: Stringer / Slight weave permitted

CONSUMABLES					
Pass Type	Electrode Type	F-No	A-No	Filler Specification	Trade Name
MAG (135)	Solid wire	6	8	AWS A5.9 : ER 308LSi	Oerlikon Interfil 308LSi
Cons Treatment				Cons Comments:	
As per manufacturers recommendations				-	
Shield Gas 1:	ISO 14175: M12ArC2 Argon (Ar) 98% ( Co2) 2%	Flow Rate:	15 - 20 Lpm	Purge Gas:	-
Shield Gas 2:	-	Flow Rate:	-	Comments:	-

WELDING CHARACTERISTICS										
Side	Pass No.	Process	Position / Direction	Filler Ø [mm]	Polarity	Amps	Volts	Wire feed [m/min]	Travel speed [mm/min]	Heat Input [kJ/mm]
1	1	MAG (135) (G/S/P)	(PB)	1.0 – 1.2	DC+ve	200 - 260	23.2 – 25.9	11.2 – 15.3	400 - 480	0.77 – 0.94
1	≥ 2	MAG (135) (G/S/P)	(PB)	1.0 – 1.2	DC+ve	200 - 260	23.2 – 25.9	11.2 – 15.3	400 - 480	0.77 – 0.94

PREHEAT INSTRUCTIONS		POST WELD HEAT TREATMENT	
Method:	Propane torch if required.	PWHT Method:	Without PWHT
Specification:	EN 1011-2	Specification:	-
Measurement:	Tempilstick / Digital Thermometer	Heating Rate (°C/hour):	-
Min Temperature:	10°C	Cooling Rate (°C/hour):	-
Max Interpass Temperature:	150°C	Soak Time (Mins):	-
		Soak Temp (°C):	-
		PWHT Monitoring	-

APPROVAL / VERIFICATION		
Created By: Brian Taylor. Welding Quality Manager.	Client: Various	Verified By: Simon Davis. TUV UK LTD ( CEOC Member )