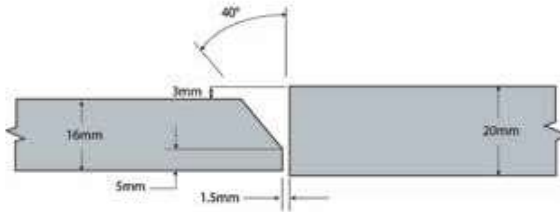


# MATERIAL HANDLING

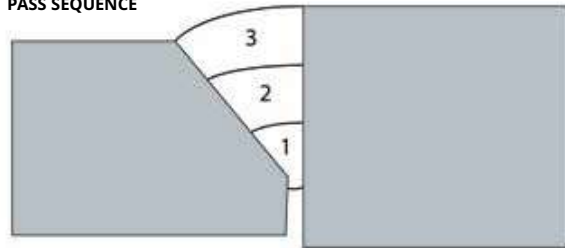
## WELDING INSTRUCTIONS

PROJECT: COMPANY STANDARD PROCEDURE		PQR: 1851	WPS NO.: 1851
<b>Welding Code</b>	AS/NZS 1554.1-2014, 1554.5-2014	<b>Material Grade</b>	AS3678 Gr. 350 to AS1442 M1030
<b>Welding Process</b>	GMAW	<b>Thickness</b>	16 to 20 mm
<b>Position</b>	1G (PA)	<b>Material Type No. / Group No.</b>	4/5 to Unassigned
<b>Joint Type</b>	Single Bevel Partial Pen (13.5mm)	<b>Material Heat No.</b>	n/a

JOINT PREPARATION



PASS SEQUENCE



JOINT TOLERANCES		DIAMETER - THICKNESS RANGE		THERMAL TREATMENT	
<b>Bevel Angle</b>	40° Inc	<b>Pipe Diameter</b>	n/a	<b>Preheat °C</b>	≥ 10°C See note
<b>Root Gap</b>	1.5-3mm	<b>Thickness Range</b>	8-32mm	<b>Inter-pass °C</b>	≤ 300°C
<b>Root Face</b>	5mm	<b>Combined Thickness</b>	Max 64mm	<b>P.W.H.T</b>	n/a

CONSUMABLES DETAILS AND WELDING PARAMETERS					
<b>Consumable Classification</b>	B G 4BA 3U C1/M21/M24 S6	<b>Technique</b>	Forehand / Push		
<b>Trade Name</b>	n/a	<b>Electrode Stickout</b>	12-18mm		
<b>Batch No:</b>	n/a	<b>Metal Transfer</b>	Globular		
<b>Tungsten Type/Size</b>	n/a	<b>Purge Gas / Flow Rate</b>	n/a		
<b>Shielding Gas</b>	Argon / 16% Co <sup>2</sup> / 3% O <sup>2</sup>	<b>Inter-run Cleaning</b>	Grind / Brush		
<b>Flow Rate</b>	17-21Lpm	<b>Flux Class / Batch</b>	n/a		

RUN NO.	SLDE	POS	ELECTRODE / WIRE		GAS/FI UX TYPE	AMPS	VOLTS	POLARITY	TRAVEL SPEED mm/min	INTERPASS TEMP °C	HEAT INPUT kj/mm
			SIZE	CLASS							
1	1	1G	0.9MM	G 49A S6	Argon/Co <sup>2</sup> /O <sup>2</sup>	167-203	25-27	DC+	244-330	Max 300°C	0.74-1.39
2	1	1G	0.9MM	G 49A S6	Argon/Co <sup>2</sup> /O <sup>2</sup>	176-214	27-29	DC+	296-399	Max 300°C	0.69-1.30
3	1	1G	0.9MM	G 49A S6	Argon/Co <sup>2</sup> /O <sup>2</sup>	179-217	27-29	DC+	234-316	Max 300°C	0.89-1.67

- Welding parameters limiter to Amps+10% - Volts +-7% - Travel +-15% of PQR
- Preheat to comply with AS/NZS 1554. 1-2014 Section 5.3 dependant on combined thickness
- At 1 kj/mm Gr. 250/300 Combined Thickness ≤34mm 10°C, 35mm-49mm 25°C, ≥50mm 50°C
- Gr. 350/400 Combined Thickness ≤24mm 10°C, 25mm-34mm 25°C, 35mm - 49mm 50 °C, 50mm-66mm 75°C, >67mm 100°C
- Root face to increase proportional to material thickness
- Weld depth not to increase
- Weld prep qualified max. 13.5mm
- unprepared abutting plate thickness qualified is unrestricted, ensure preheat complies with WPS
- Ensure LiftQuip welding instructions are followed at all times