

Installation Procedure – SUB without Interlock Spacer

Private and Confidential

1. The SUB product will be supplied with tape locking the product together and protecting the non-painted area during transit.
2. Remove all tape from the interlock area to expose the bare metal of the interlock.
3. In order to slide the product over the SUB casing disengage the interlock and spread the part open to slide over the sub casing shoulder.
4. Slide the product over the SUB casing.
5. Re-interlock the centraliser unit once over the casing shoulder.
6. To interlock the centraliser fully, hit downwards on one side of the interlock and this will seat the interlock fully home.

*****Always wear gloves, ear defenders and safety glasses as a minimum precaution*****



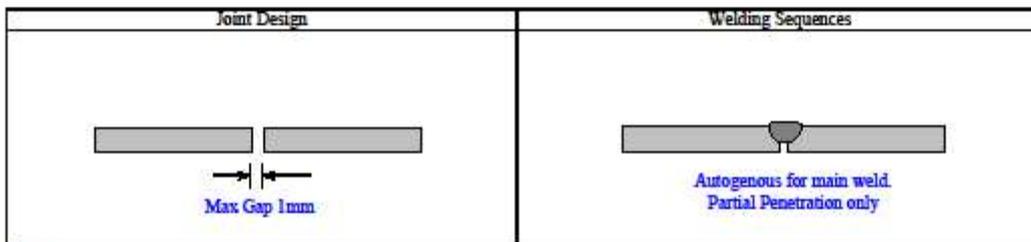
7. At this point the weld procedure can be followed in order to weld the centraliser interlocks together.



8. If the interlock gap exceeds 1mm when fitted to the pipe (pre-weld), then use a clamp on the bows to gently pull the interlock gap together.

**MANUFACTURERS WELDING
PROCEDURE SPECIFICATION (WPS)**

Manufacturers WPS Ref No:	CL-TIG-BS-BW-003A	Issue Number:	1
Manufacturers WPQR No:	None	Parent Material:	Boron Steel - Domex 034-B BS499
Location:	Workshop		
Welding Process:	Autogenous TIG Welding (142)	Yield/0.2% PS upto (N/mm ²):	Not Applicable
Mode of Transfer (MIG/MAG):	Not Applicable	Material Thickness (mm):	4mm
Joint Type & Weld:	Square Butt Welds	Outside Diameter (mm):	Not Applicable
Method of Prep and Cleaning:	Ground	Welding Position:	Flat (PA)



Welding Details

Run	Process	Size of Filler (mm)	Current A	Voltage V	Type of Current/Polarity	Wire Feed Speed	Travel Speed (mm/sec)	Heat Input (kJ/mm)
1	142	Not Applicable	75	Not Required	DC Elec Neg	Not Applicable	As Required	As Required

Filler Metal Designation:	Not Applicable	Back Gouging:	None
Filler Metal Make:	Not Applicable	Preheat Temperature (min):	Ambient
Any Special Baking or Drying:	None	Interpass Temperature (max):	Not Applicable
Shielding Gas Type & Group:	Pure Argon (I1)	Heat Treatment and/or Ageing:	None
Shielding Gas Composition:	99.99% Argon	Time, Temperature, Method:	Not Applicable
Flow Rate (LPM):	6/7 LPM	Heating and Cooling Rates:	Not Required
Purging Gas Type:	Not Applicable	Other Information:	None
Flow Rate (LPM):	Not Applicable		
Tungsten Type:	2% Thoriated		
Tungsten Size:	2.4mm		
Torch to Work (mm):	10mm Bore		

MANUFACTURERS REPRESENTATIVE

Signature:
Name:
Date: 18th February 2015