

20.3.3 Butt Fusion Jointing

- A. The equipment used for butt fusion jointing of pipes and fittings shall comply with the requirements of ISO 12176 Part 1. It shall incorporate a control unit that shall comply with the type A requirements of table B.2 of ISO 12176, Part 1 and the following points.
- i. Automatically preset the fusion jointing parameters based on the pipe dimensions, material type and fusion jointing procedure
 - ii. Automatically control and monitor the fusion jointing process
 - iii. Comply with the requirements of Annex A of ISO 12176, Part 1
 - iv. Assign a unique joint number to each joint and have a data retrieval facility to allow historical fusion parameters to be read on the unit's screen and to be exported to an external computer or memory stick
- B. Calibration certificate of the equipment shall be submitted to Engineer prior to installation.
- C. The butt fusion jointing procedures shall comply with the requirements of ISO 21307. The Contractor shall generally follow the single low pressure fusion jointing procedure described in section 5.1 of ISO 21307.
- D. Only pipes and fittings of the same size, SDR and material are to be butt fusion jointed.
- E. A dummy joint shall be made at the start of each welding session using pipe off cuts of the same size, material and SDR as the pipe being installed. The normal trimming, bead up and full heat soak cycles will be adhered to.
- F. If the pipe size is changed during the day, if the heater plate is allowed to cool below 180°C or if maintenance of the butt fusion equipment is carried out then a new dummy weld shall be performed.
- G. All butt fusion joints shall be inspected in accordance with the requirements of Appendix B of EN 12007 Part 2. Should the joint contain any of the faults described in the standard then the joint shall be cut out and replaced. The inspection shall include the following points:
- i. The gap between the two single beads shall not be below the fusion surface.
 - ii. The displacement between the fused pipes must not exceed 10% of the