

wrap placed around pipes at stanks shall be self adhesive waterproof membrane or other self adhesive tape as approved by the Engineer.

- K. Provide, fix, and maintain at such points as may be directed by the Engineer properly painted sight rails and boning rods of predetermined measurement for the boning in of individual pipes to correct alignment. The sight rails must be situated vertically above the line of pipes or immediately adjacent thereto. Ensure that there is at least three sight rails in position on each length of pipeline under construction to any one gradient. Consideration will be given by the Engineer to any alternative method for controlling alignment such as laser beam instrument.
- L. Where pipelines are to be constructed in the tunnel heading or duct provided by the Contractor, use a minimum clearance of 150mm between the inside face of the tunnel heading or duct and the pipe unless otherwise shown on the Drawings.
- M. Adopt a suitable method of controlling the alignment of a pipeline installed in a tunnel heading or duct to the approval of the Engineer.
- N. When cutting pipe is required, ensure that the cutting is done by machine, leaving a smooth cut at right angles to the axis of the pipe.
- O. When installing pipes, ensure that the rubber gasket is inserted in the groove of the bell [spigot] end of the pipe, and the joint is cleaned and lubricated. Lay the spigot end of the pipe to be joint with. Align and insert home in the bell end. Use a metal feeler to check the rubber gasket is correctly located.
- P. Ensure that all pipes and fittings are sound and clean before laying. When pipe laying is not in progress, ensure that the pipe end is closed at all times by watertight plug or other approved means.
- Q. Laying Reinforced Concrete Pipes:
1. In Trench - Granular Bedding:

In trench pipes with flexible joints except where concrete bed, bed and surround, or protection is required, lay pipes on a well compacted bed of granular material extending for the full width of the trench and with sufficient material at the sides to permit the pipes to be worked into the granular material and firmly supported to true line and level. Leave sufficient space to enable the joints to be made tested and inspected.