joint is protected. The Contractor shall ensure that the initial thickness of the packing is such that the final joint gaps achieved upon completion of the pipeline are a minimum 8mm in width or in accordance with the pipe manufacturer's recommendations. The joint gap shall have a tolerance of between 6mm and 15mm depending on jacking forces.

B. Packing shall not be fixed over the full face of the pipe but stopped approximately 10mm round edges.

C. Where there is no external pipe/sleeve, pipe installation shall continue until at least one additional length of pipe beyond the limit of construction is exposed. Where the pipe has failed, a second pipe shall be jacked through and inspected. The condition of the exposed pipe and its exterior coating shall be inspected by the Engineer. Where in the opinion of the Engineer the pipe or coating has been damaged during installation, the Contractor shall submit a proposal, for review by the Engineer, for demonstrating the adequacy of the pipeline installed.

D. Gaps in the joints between the pipes shall be sealed with an approved material.

1.3.7 Line and Level Control

A. The setting of the laser and target and the alignment of the tunnel relative to the laser beam shall be accurate and checked constantly.

B. Where pipeline diameter allows, manual checking of line and level shall be carried out by conventional theodolite and level techniques.

C. If the deviation exceeds the specified tolerance, work shall cease immediately and the Engineer informed forthwith. The Contractor shall submit proposals to rectify the deviation and work shall only recommence on the written instruction of the Engineer.

1.3.8 Tolerances

A. Lateral deviation of any part of the pipeline shall be not more than ±50mm.

B. Level deviation of any part of the pipeline shall be not more than ±20mm for pipe diameter up to 1800mm and ±50mm for pipe diameter above 1800mm.

C. Maximum lipping between the edges of adjacent pipes shall be not more than ±5mm.

D. Ground movement shall be limited to the following: