



(TN5) Pipelines under buildings



Installation: Pipe laying

Pipelines under buildings (TN5)

Where a pipeline passes under a building, it is necessary to both protect it from any imposed loadings and ensure that the stability of the building is not impaired.

Where a pipeline has less than 300mm cover under a load-bearing floor slab, it should be surrounded with concrete integral with the slab. Ideally this should be poured at the same time as the floor slab. The concrete surround should be tied to the slab with nominal steel reinforcement placed vertically with turned over ends. If it is not possible to pour the concrete surround at the same time as the slab, the steel reinforcement should be included and used to tie two pours together. No provisions for flexibility within the concrete surround should be made, unless an expansion joint is included in the slab. A construction joint as described in Concrete bedding to pipes – Technical Note 4, page 102, should be included within the pipe surround at that point which must also be coincident with a pipe joint.

Additional flexibility should be incorporated into the pipeline as it leaves any concrete surround, as set out in Pipes passing through structures – Technical Note 3, page 101.

In normal stable ground conditions, and with 300mm or more cover to the pipeline beneath the slab, then a total granular surround can be used as the pipe bedding. Where the pipeline subsequently passes under or through the edge of the building, it should be treated as shown in Technical Note No. 3. It may be practicable to lower an edge-beam to incorporate the pipeline as a built-in structure, or it may be preferred to pass under the beam with minimum cover, treating it as a lintel.

These details are illustrated in Fig. 11.

Fig. 11 – Vitrified clay pipeline under typical building slab

