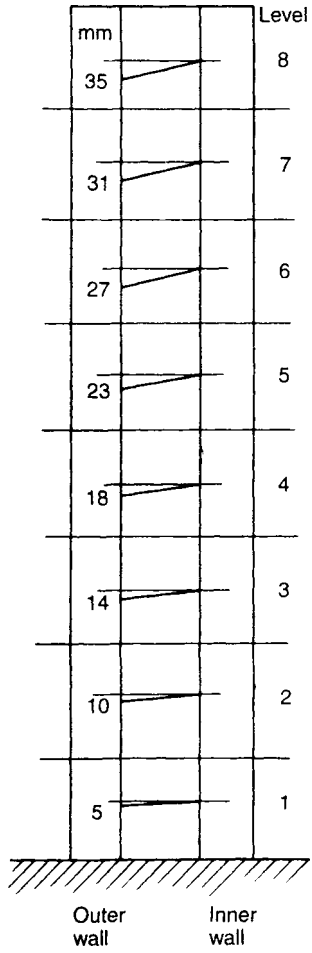

Fig. 13.2 Relative wall tie movements.

Movements across the cavity of the order shown would require the use of special wall ties, many varieties of which are commercially available. It is also necessary to allow for differential movements across the cavity at window openings and at the roof level requiring careful detailing to preserve water exclusion as well as permitting free movement.

As suggested above, differential movement between the leaves of a cavity wall or between masonry cladding and the main structure of a building will depend on the characteristics of both. If the main structure is a steel frame the only significant movement in it will be the result of temperature change from that assumed at construction to a maximum in

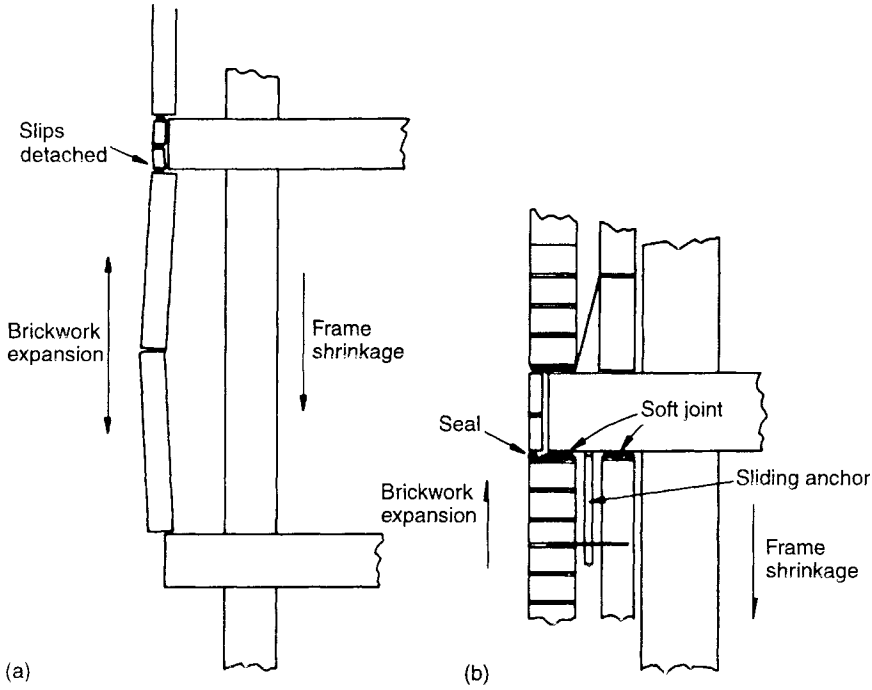

Fig. 13.3 (a) Bowing of infill wall and detachment of brick slips as a result of frame shrinkage, (b) Detail of horizontal movement joint to avoid damage of the kind shown in (a).

service. A concrete main structure will, however, develop shrinkage and creep strains after completion which will have to be allowed for in estimating differential movements relative to a masonry cladding. If masonry cladding is built between concrete floor slabs, as in Fig. 13.3(a), a serious problem can be created if the masonry expands and the concrete frame shrinks unless this relative movement is allowed for by suitable detailing as in Fig. 13.3(b).