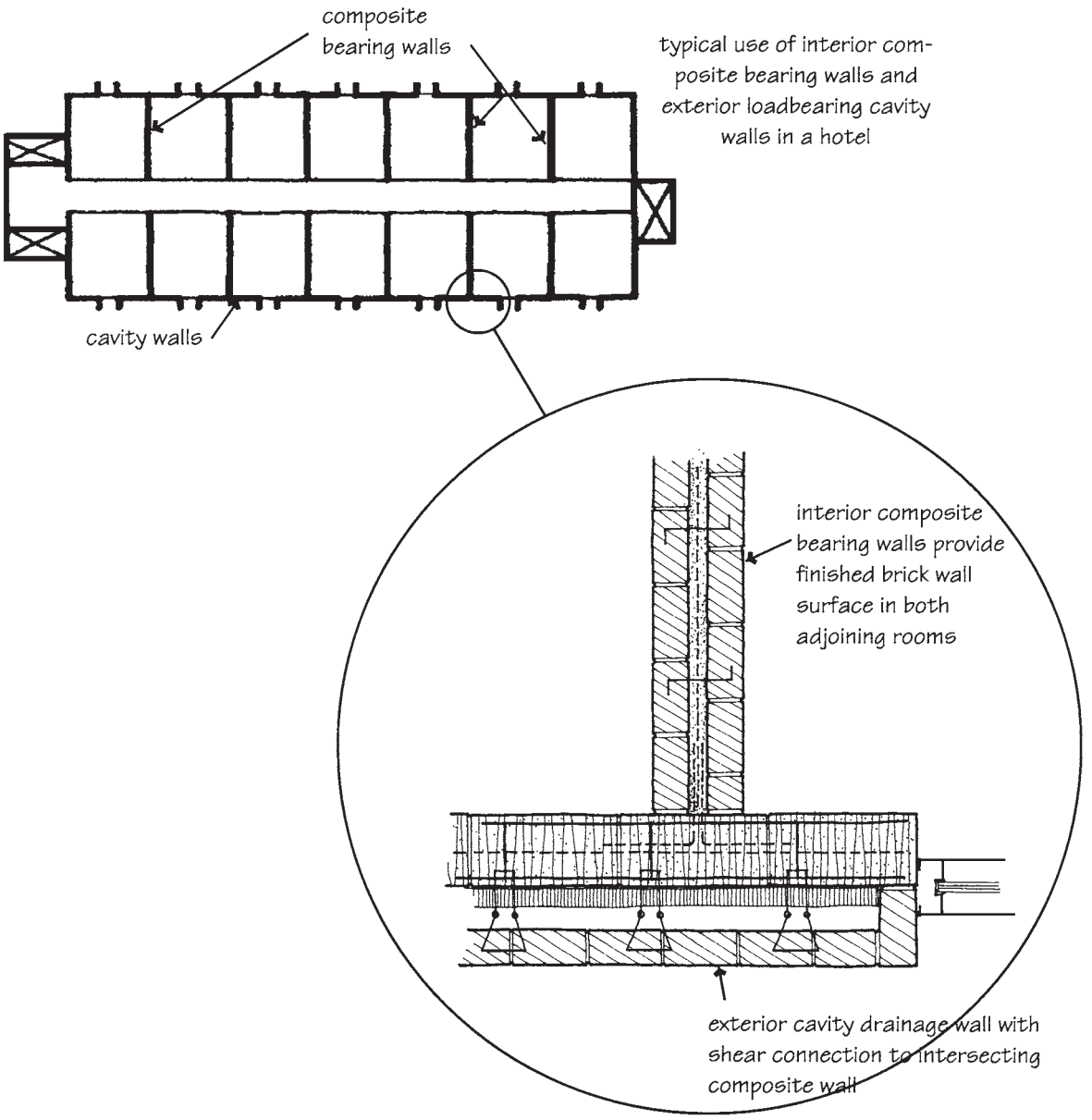

Figure 10-35 Example of interior loadbearing composite walls combined with exterior cavity walls.

tion (see Chapter 6 for mortar recommendations). Cavity walls should be protected against moisture penetration in accordance with the principles outlined in Chapter 9, relying primarily on a system of flashing and weep holes to collect and expel rain which enters through the facing wythe or moisture which condenses within the cavity. The CMU backing wall can be constructed as infill panels, as a curtain wall (*see Fig. 10-37*), or it can be constructed as a loadbearing wall. The cavity face of the concrete block backing should be coated with a dampproofing mastic to provide a water-shedding surface and to reduce air permeance through the CMU. The heads and sills of windows should be protected by flashing and sill pans to prevent moisture from migrating through glazing systems to the interior.

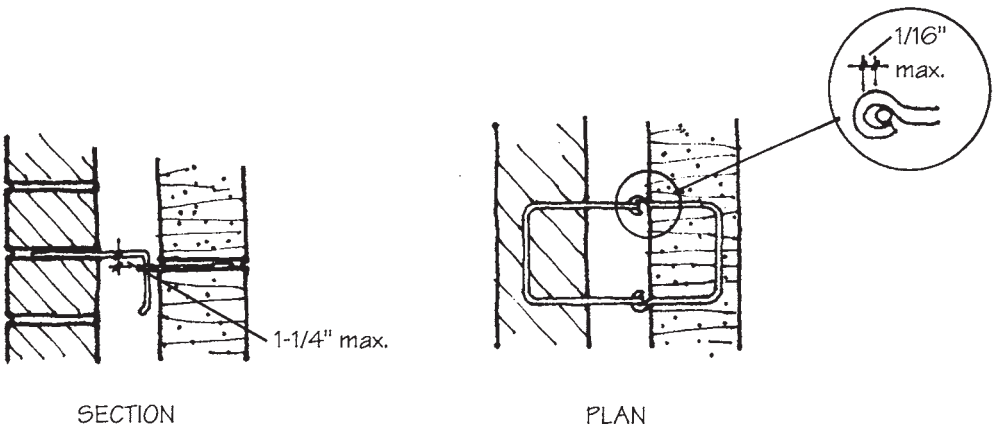

Figure 10-36 Maximum offset and play in adjustable metal cavity wall ties.

Periodic wetting and drying are not harmful to masonry or to the components which make up a cavity wall. Cavity walls are designed to collect and drain moisture efficiently so that there is no extended saturation which could cause efflorescence, freeze-thaw damage, or corrosion of metal ties. To maintain functionality, the cavity must be kept clear of mortar droppings and the flow of moisture to the weeps must be unobstructed. Despite the fact that moisture is designed to move through a masonry cavity wall in a controlled manner, mold growth cannot occur because there is no food source to sustain the proliferation of spores. Cavity walls are, in fact, more durable in resisting moisture damage than almost any other type of wall.

10.6 MASONRY VENEER

A veneer is defined as "a nonstructural facing attached to a backing for the purpose of ornamentation, protection, or insulation, but not bonded to the backing so as to exert a common reaction under load." A non-loadbearing masonry veneer mechanically anchored to a loadbearing or non-loadbearing masonry backing wall is commonly referred to as a cavity wall even though the outer wythe of masonry technically functions as a veneer. Connectors used to attach masonry veneers to masonry backing walls are called ties. Connectors used to attach masonry veneers to non-masonry backing walls are called anchors. The term *veneer* is used to describe masonry cladding over non-masonry backing walls.

There are two basic methods of attaching masonry veneer. *Adhered veneer* is secured by adhesion with a bonding material to a solid backing. Adhered veneer does not support its own weight. *Anchored veneer* is secured by metal anchors attached to either a solid backing or a structural frame. The weight of an anchored veneer is typically supported by the structure or by shelf angles attached to the structure, at every floor. An anchored veneer may also be fully supported at the foundation without intermediate shelf angles. Unlike a reinforced curtain wall, an unreinforced veneer without shelf angles still requires lateral anchoring throughout its height to backing walls capable of transferring lateral loads to the structure.

10.6.1 Adhered Veneer

Adhesion attachment is normally limited to thin sections of terra cotta or stone facing. Codes limit the weight of the veneer to 15 lb/sq ft, 36 in. maxi-