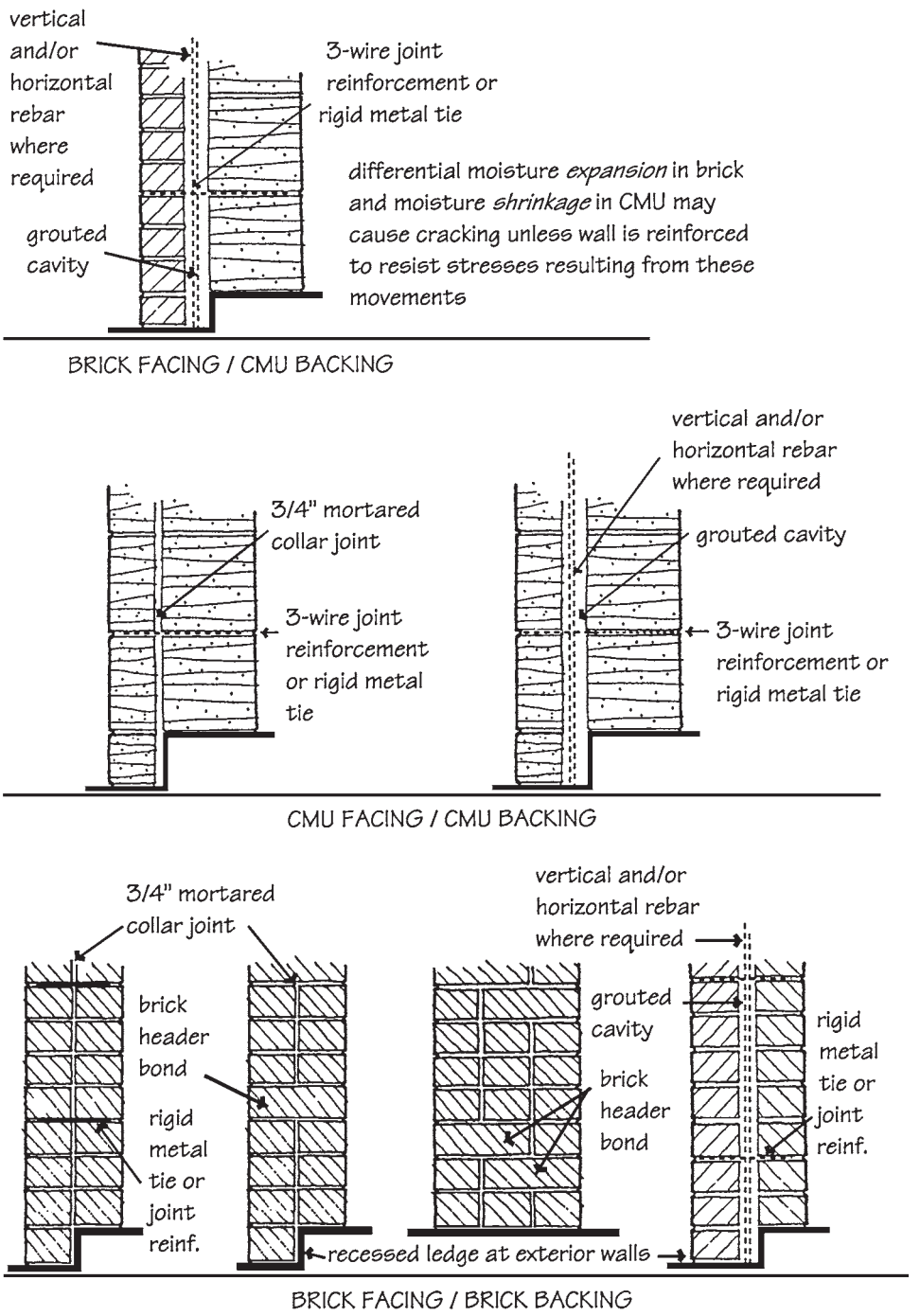

Figure 8-5 Composite masonry walls. (*From Beall and Jaffe,* Concrete and Masonry Databook, *McGraw-Hill, New York, 2003.*)

Cavity walls can prevent the formation of condensation on interior surfaces, so that plaster and other finish materials may be applied directly, without furring. Insulation may be added in the wall cavity, including water-repellent vermiculite, silicone-treated perlite, or rigid boards. A vapor barrier or dampproof coating is usually required on the cavity face of the inner wythe (refer to Chapter 10).

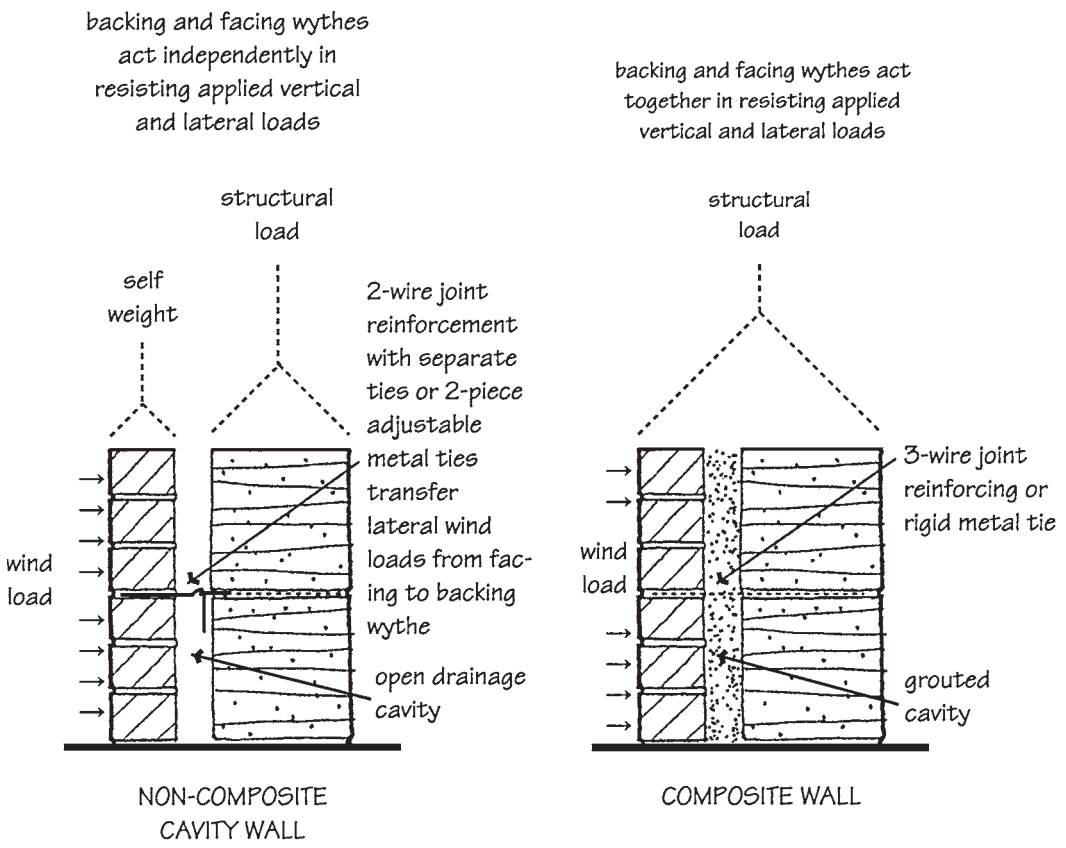

Figure 8-6 Load distribution in multi-wythe composite and non-composite walls. (*From Beall and Jaffe,* Concrete and Masonry Databook, *McGraw-Hill, New York, 2003.*)

8.3 VENEER WALLS

Masonry over a backing wall of non-masonry materials functions as a decorative veneer. Masonry veneers may be adhered to solid backing walls, but are more commonly attached with metal anchors. An open cavity between backing and facing allows drainage of moisture which penetrates the wall or condensate which forms within it. Masonry veneers over wood stud or metal stud walls are popular in residential and some light commercial construction (*see Fig. 8-8*). Stud backing walls are vulnerable to corrosion and decay and the sheathing materials often support mold growth, so veneer walls must be properly designed to protect the components of the assembly as well as the interior building space. Chapter 10 includes guidelines for detailing masonry veneers.

Masonry veneer can be constructed with adhesive or mechanical bond, over a variety of structural frame types and backing walls. Veneer applications of masonry are appropriate when the appearance of a masonry structure is desired but a loadbearing wall design is not considered appropriate. Masonry veneers may be used on buildings of wood, steel, or concrete structural frames. Brick, concrete block, stone, and terra cotta are the most commonly used veneer materials. Thin veneers may be attached adhesively with mortar over a solid backing, but codes limit the weight, size, and thickness of units. Veneers attached with metal anchors are more common, particularly in commercial applications. In skeleton frame construction, both brick and block veneers can be designed as reinforced curtain walls spanning vertically or