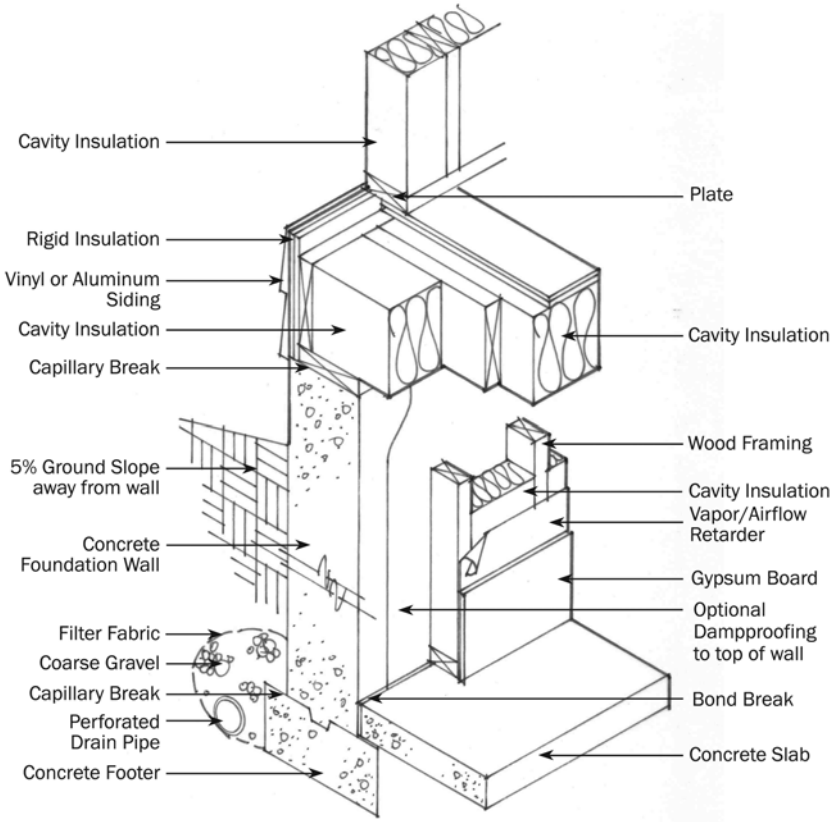


**Figure 5-15a.** (EN20) Moisture control for mixed climates.

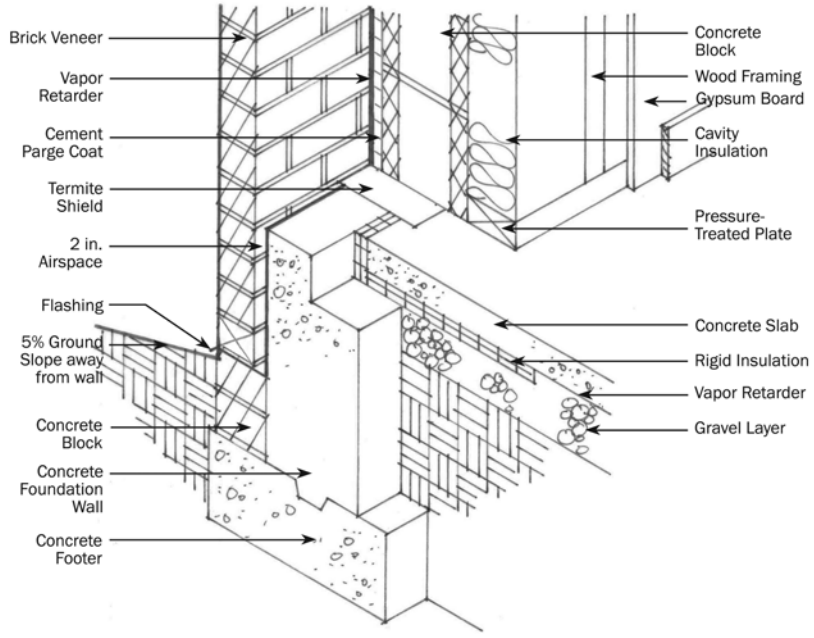


**Figure 5-15b.** (EN20) Moisture control for warm, humid climates.

- The system is capable of withstanding positive and negative combined design wind, fan, and stack pressures on the envelope without damage or displacement and should transfer the load to the structure. It should not displace adjacent materials under full load.
- It is durable or maintainable.
- The air barrier material of an envelope assembly should be joined in an airtight and flexible manner to the air barrier material of adjacent assemblies, allowing for the relative movement of these assemblies and components due to thermal and moisture variations, creep, and structural deflection.
- Connections should be made between:

  a. Foundation and walls
  b. Walls and windows or doors
  c. Different wall systems
  d. Wall and roof
  e. Wall and roof over unconditioned space
  f. Walls, floors, and roof across construction, control, and expansion joints
  g. Walls, floors, and roof to utility, pipe, and duct penetrations

- All penetrations of the air barrier system and paths of air infiltration/exfiltration should be made airtight.

## Fenestration: Vertical Glazing and Skylights (Envelope)

### Good Design Practice

#### *EN22* (Climate Zones: all)

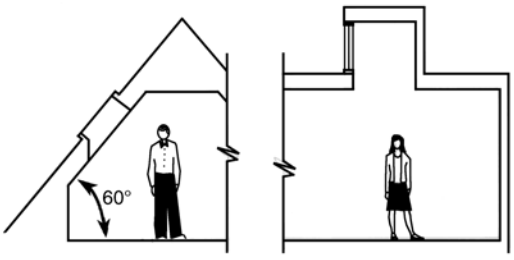


**Figure 5-16.** (EN22) Vertical fenestration—defined as slope greater than 60° from the horizontal.

The recommendations for fenestration are subdivided into those for vertical glazing (e.g., storefront windows, glazed doors, other windows) and those for skylights and are listed in Chapter 3 by climate zone. Vertical fenestration is defined as a slope greater than 60° from the horizontal (see Figure 5-16).

Table 5-1 lists the type of vertical glazing construction that generally corresponds to the U-factors and solar heat gain coefficient (SHGC) values in the Chapter 3 Recommendation Tables.

**Table 5-1. Vertical Fenestration Descriptions**

| U-factor | SHGC | VLT | Class and Coating | Spacer | Frame |
|---|---|---|---|---|---|
| 0.69 | 0.44 | 0.45 | Double clear | Standard | Metal, vinyl, wood |
| 0.49 | 0.40 | 0.45 | Double tinted with low-e coating | Insulated | Metal with thermal break, vinyl, wood |
| 0.41 | 0.41 | 0.60 | Double clear with selective low-e coating | Standard | Metal with isolation bar, vinyl, wood |
| 0.38 | 0.41 | 0.60 | Double clear with selective low-e coating | Insulated | Metal with isolation bar, vinyl, wood |