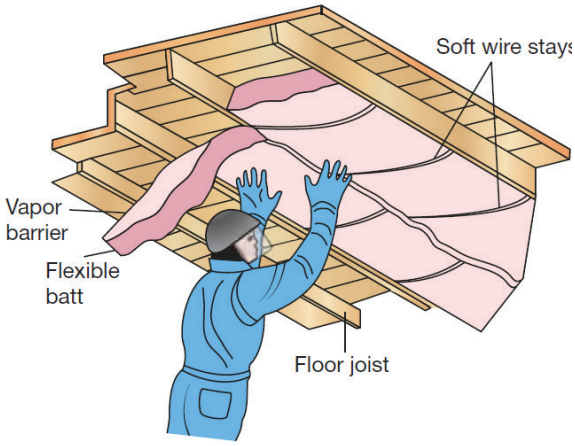

FIGURE 15-10 Basement ceiling insulation

Crawlspace walls

Conditioned space must be surrounded by a contiguous building thermal envelope. The code allows for the thermal envelope with respect to the crawlspace to be horizontal in the floor above or vertical down the walls to create a conditioned crawlspace. Unvented or vertically insulated crawlspaces are allowed in IRC R408.3 and IBC 1203.4.2 exception 4. Unvented crawlspaces are popular in colder climates to prevent the freezing of pipes. In all climates, a Class I vapor retarder, typically sheet polyethylene, must cover the exposed dirt in the crawlspace. The horizontal overlap joints in the vapor retarder membrane must be taped or sealed and the retarder must extend vertically 6 inches up and be sealed and attached to the stem wall (Figure 15-11).

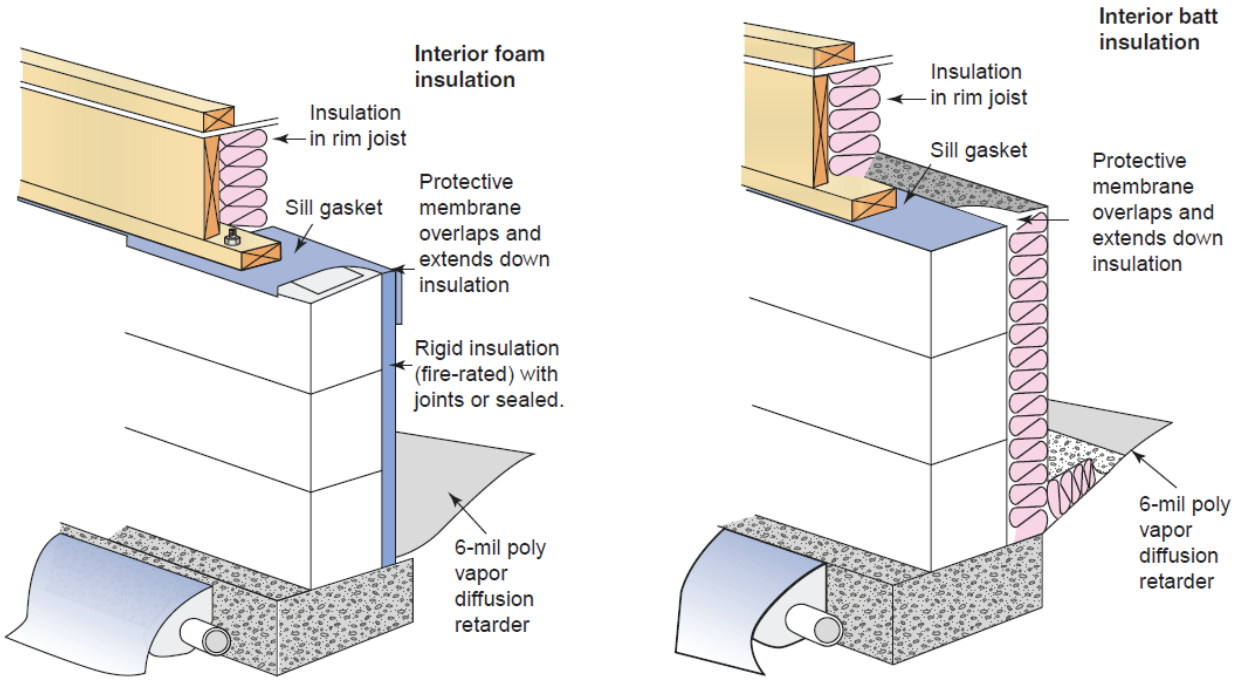

FIGURE 15-11 Interior insulated crawlspace *(Courtesy of EnergySavers.gov)*

continued

The crawlspace insulation must cover the entire wall from the floor above to the grade below and then extend horizontally or vertically at least 24 inches down the stem wall. The insulation below the crawlspace floor next to the stem wall partially eliminates the thermal bridging effect created at the intersection of the foundation wall and crawlspace floor (Figure 15-12). [Ref. R402.2.11]

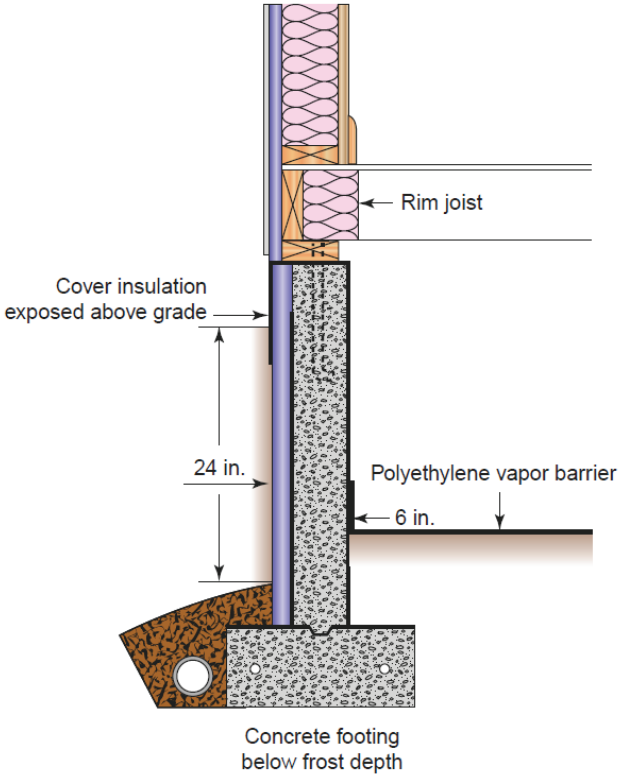

FIGURE 15-12 Exterior insulated crawlspace