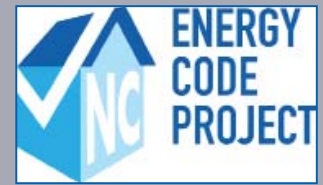


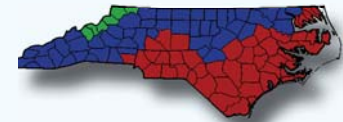
Knee Wall Insulation Guide

North Carolina Residential Energy Code 2012



Framed Knee Wall Construction and Insulation

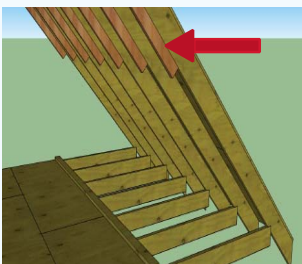
- All kneewalls must have a backer.
- Knee walls must be surrounded on all 6 sides with a rigid material or air barrier material. Install a continuous air barrier over the attic side of the insulation using OSB, drywall, ThermoPly or similar sheet air barrier materials, or house wrap. A rigid material works best.
- Seal all remaining air leaks and penetrations as required by code.



Zones 3 - 4 - 5

Framed Wall R-value 13 - 15 - 19

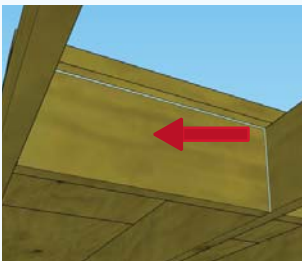
Installation Steps



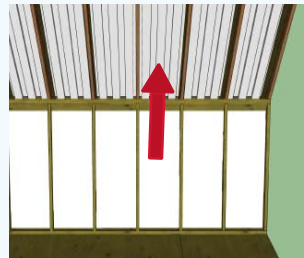
Step 1
Install furring strips on the bottom of rafters, for knee wall



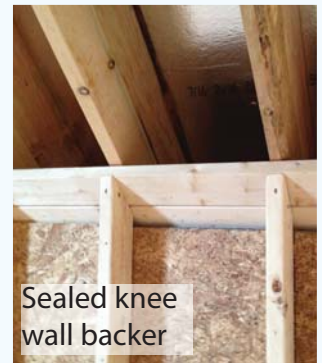
Step 4
Install backer and seal all seams and penetrations



Step 2
Place blocking between floor joists under wall and install bottom plate



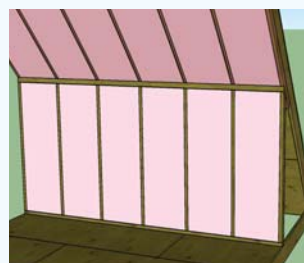
Step 5
Install insulation baffles, if needed



Sealed knee wall backer



Step 3
Place studs for knee wall, and ensure the top of stud is cut parallel to rafters. Add top plate



Step 6
Install continuous ceiling and wall insulation



Back of a completed knee wall

Tips

- If house wrap is used for backer, seal the seams and edges with spray foam or caulk.
- If constructing a knee wall with a truss system, you must install blocking between the joists underneath the knee wall. The blocking can either be dimensional lumber, manufactured wood products such as plywood or OSB or any solid rigid material. The blocking must be sealed with caulk or spray foam.
- Frame roof rafters to provide a place to attach an air barrier that fully encloses the roof insulation.
- Alternate approach: Insulate the sloped ceiling rather than the knee wall and bring the attic into the conditioned space. This is a good option especially when using the area behind the knee wall for storage.