For slabs, insulation should be installed along the slab perimeter. Insulation should never be compressed or installed in a manner that creates gaps (insulation should be continuous and directly in contact with an air barrier material such as drywall).

### Insulation & Window Requirements

**Zones 3 - 4 - 5**

For slabs, insulation should be installed along the slab perimeter. Insulation should never be compressed or installed in a manner that creates gaps (insulation should be continuous and directly in contact with an air barrier material such as drywall).

### HVAC: Key Details

#### Duct Sealing
- **Duct Sealing** -- All ducts, air handlers, filter boxes and building cavities used as ducts must be sealed using UL 181 labeled mastic or tape.
- **Mandatory Duct Testing**
  - Duct tightness is required to be verified using either:
    1. Total duct leakage test
    2. Leakage to the outside test
  - The test results for either test shall be less than or equal to 6 CFM per 100 ft² of conditioned floor area served by that system when tested at a pressure differential of 25 Pa (Pascal's) across the entire system, including the manufacturer's air handler enclosure.

#### Duct Insulation for Supply and Return Ducts
- In unconditioned spaces = R-8 minimum
- In semi-conditioned spaces = R-4
- In conditioned space = No requirement, unless there is a risk of condensation forming

### Lighting
- A minimum of 75% of the lamps in permanently installed lighting fixtures shall be high efficacy (CFL and LED) lamps.

### Windows
- **Solar Heat Gain Coefficient:** must be 0.30 for zones 3 & 4, zone 5 none required.
- **U-factor:** must be 0.35 or less for all zones
- **Exemptions:**
  - 15 ft² of total glazed fenestration may be exempt from U-factor & SHGC requirements.

**Insulating a Slab-on-grade floor**

Insulation shall be installed on the edge of monolithic (Detail 1) and floating slab (Detail 2) floors in climate zones 4 and 5.

- 2" termite inspection
- 45° angle to shed water
- slab insulation extended down 18" or to the bottom of footing, whichever is less

**Zone 3/Zone 4/Zone 5**

* Zones 4 & 5: R-30 can be used in attics w/full insulation over exterior wall. In ceilings without attic spaces, 500 ft² can be R-30.
AIR SEALING & BACKING MATERIALS

Backings of insulation required for knee walls, tubs, showers, fireplace inserts, and stairs on exterior walls.

Air sealing required under knee walls, balloon-framed walls, shafts, chases, dropped soffits, and HVAC boots.

Two Options for Verifying Air Leaksage Control:

1. Visual Inspection: Testing Option 1
   Visual inspection for: top plates, sill plates, window and exterior door jambs, utility penetrations, floor edges, between garage and ceiling spaces, duct boots and return boxes, and recessed lighting.

2. Blower Door Test: Testing Option 2
   Blower Door Test ≤ 0.30 CFM50/Square Foot of Surface Area (SFSA) or Five (5) air changes per hour (ACH50) or less.