

STATE BUILDING CODE INTERPRETATION I-11-07

April 9, 2007

The following is offered in response to your request for an interpretation of the provisions of Section 1503.5 of the 2003 International Building Code (IBC) portion of the 2005 State Building Code.

Question: When re-roofing a building that has existing gable end louvers for attic ventilation, can one add ridge vents without adding soffit vents and disabling the gable end louvers?

Answer: No. Section 1503.5 of the IBC states, in part, that roof intake and exhaust vents shall be installed in accordance with the manufacturer's installation instructions. A review of a variety of manufacturer's installation instructions as well as several ICC evaluation reports for ridge vents indicates that in all cases reviewed the ridge vents are intended to be installed in conjunction with eave, cornice or soffit vents. The combination of low intake vents at the eave, cornice or soffit, and high exhaust vents at the ridge promotes uniform ventilation of the entire attic space based on cooler air entering at the low vents and warmer air exhausting at the high vents. Gable end louvers, while not as efficient as a combination low and high system, likewise promote uniform ventilation where intake and exhaust occur at different ends of the attic depending on wind direction. When one mixes gable end louvers with ridge vents, however, the venting system is short circuited when air enters through the gable end louver and exits through the ridge vent in close proximity to the gable wall with the louver in it. Thus, the air at the lower portions of the attic and in the middle of the attic midway between the gable end louvers becomes stagnant and may result in a build up of excessive heat or moisture.

NOTE: Although this interpretation is based on the requirements of the IBC it is likewise applicable to attic ventilation in building construction governed by the 2003 International Residential Code portion of the 2005 State Building Code.