



## **Performance Exam Mockup Design for Asphalt Shingle Roof Systems**

Mockups for asphalt shingle system performance exams must resemble the characteristics of most steep-slope roofs. These characteristics are essential to ensure standard testing conditions are achieved and fair performance exams are administered. All asphalt shingle system mockups must include the following characteristics:

1. A wood deck capable of supporting two times its intended total load. Deck material must be one of the following:
  - A minimum of four-ply, nominal thickness of 1/2-inch-thick (actual thickness of <sup>15</sup>/<sub>32</sub>-inch thick) plywood installed over supports spaced no more than 16 inches on-center
  - A minimum four-ply, nominal thickness of 5/8-inch-thick (actual thickness of <sup>19</sup>/<sub>32</sub>-inch-thick) plywood installed over supports spaced no more than 24 inches on-center
2. A slope of 6:12 for the main roof area and 5:12 for the dormer roof
3. A total field area of 100 square feet
4. Ten lineal feet of hip and including a minimum of 4 lineal feet of hip and 4 lineal feet of ridge. The decking at the ridge must include a 1-inch opening on each side of center to accommodate the installation of continuous ridge vent materials.
5. The mockup must remain stationary and secure for the duration of any performance exam
6. One rake edge
7. One hip roof area
8. Two valleys approximately 4-foot long
9. One vent pipe penetration 4 inches in diameter and 12 inches high. Pipe penetration design should allow for detaching and reattaching at various mockup locations.
10. Penetrations must never be located within 12 inches of a ridge, hip or dormer or 18 inches from a valley center
11. A minimum 4-inch nominal fascia board on all lower drip edges

NRCA also recommends a separation sheet, such as rosin building paper, be affixed on steep-slope mockup wood decks for performance assignments requiring use of self-adhering underlayment for easier material removal after exam completion.

This asphalt shingle systems mockup only represents a concept design. It is designed for maximum compactness, portability, ease of storage and to meet the characteristic requirements listed in this document. The mockup must be constructed using the indicated dimensions and slope. NRCA does not provide engineered drawings for the construction of any mockup. Determining mockup strength, weight capacities and durability are the responsibilities of those constructing mockups.



## Concept design: Asphalt shingle systems mockup

