

## STATE BUILDING CODE INTERPRETATION NO. I-66-99

December 27, 1999

The following is offered in response to your letter in which you request a formal interpretation of asphalt roofing fastener requirements for the State of Connecticut under the 1999 State Building Code.

**Question:** "What is required for asphalt shingles to meet the Basic Wind Speeds listed in Appendix A of the BOCA 1996 Wind Load Criteria."

**Answer:** The State of Connecticut has adopted, with amendments, two model building codes which each contain information regarding the installation of asphalt strip roofing shingles: The 1995 CABO One and Two Family Dwelling Code which governs the construction of Use Group R-4 One- and Two-family dwellings, and the BOCA National Building Code/1996 which governs the construction of all other Use Group buildings and structures.

The 1999 Connecticut Supplement to the BOCA/1996 code contains, at Section 1507.4.3 the following information: "Asphalt strip shingles shall have a minimum of six fasteners per strip shingle where the basic wind speed is 80 miles per hour or greater, as determined in accordance with Appendix A." In addition, Section 1504.1 of the BOCA/1996 code contains the general statement: "Roof coverings shall be designed, installed and maintained in accordance with approved manufacturer's installation instructions....." Therefore, when constructing a building or structure which is governed by the BOCA/1996 code, the more stringent of the manufacturer's installation instructions or the 80 mile per hour and higher basic wind speed would be utilized to determine the number of fasteners required. For example, if the manufacturer required six fasteners when the wind speed exceeded 50 miles per hour, that would be the controlling information since it is more stringent than that which is found within the prescriptive requirement of the code. If, however, the manufacturer's installation instructions were silent regarding the number of fasteners in high wind areas or special wind regions, or indicated a need for six fasteners at a wind speed of 90 miles per hour, the language of the code would control, since it is more stringent than the manufacturer's installation instructions.

The language found in the currently adopted version of the 1995 CABO code is not as easy to follow. Section 903.4 of the code states "Asphalt shingles shall be fastened according to the manufacturer's printed instructions and Table 903.4". Note (1) to Table 903.4 states that "For special conditions such as mansard application and where roofs are in special wind regions, shingles shall be attached per manufacturer's instructions." During the code development process it was felt that this language was satisfactory with the intent being that when the basic wind speed was 80 miles per hour or greater, that would constitute a "special wind region" and the manufacturer's instructions for additional fasteners would have to be followed. It has since been discovered that this language has caused confusion and problems in code enforcement

due to the vast differences in manufacturer's instructions and the general unavailability of such instructions during permit issuance and inspection. For these reasons, the proposed 2000 Errata to the 1999 State Building Code, which will be available in early 2000, contains the following new addition to the Connecticut Supplement to the 1995 CABO code:

(Add) **903.4.1 Special wind regions.** Asphalt strip shingles shall have a minimum of six fasteners per strip shingle where the basic wind speed is 80 miles per hour or greater, as determined in accordance with Appendix A of the BOCA National Building Code/1996 portion of the Connecticut Supplement.

It is hoped that this new language, combined with the information found in existing Section 903.4, will eliminate the confusion that exists and result in enforcement of the asphalt strip shingle fastener issue in exactly the same manner as the BOCA/1996 code.