

STATE BUILDING CODE OPINION 20-July02

CODE: 2018 International Residential Code

SECTION: R506.2.3 Vapor Retarder
AF103.3 Soil-Gas-Retarder

QUESTION 1: Is it the intent of the IRC to regulate the requirements for a vapor barrier under two different code sections (R506, AF103), for two distinct purposes?

ANSWER 1: **No. Vapor barriers are addressed in R506 and radon control in Appendix F. Vapor barrier and radon control are separate issues. Where radon control is applicable, the code conditions must be met regardless of vapor barrier requirements. Vapor barrier exceptions do not apply to radon control and radon control exceptions do not apply to vapor barriers.**

QUESTION 2: If the answer to question one is yes, can the vapor barrier be removed per the exception in R506.2.3 #4, but still be required per AF103.3?

ANSWER 2: **The answer to Question 1 is no. See the answer to Question 1.**

QUESTION 3: If the answer to question two is yes, can the vapor barrier be removed per the exception in R506.2.3 #4, and not required if *SUBSLAB DEPRESSURIZATION SYSTEM (Active)* is installed.

ANSWER 3: **See the answer to Question 1.**

Background not to be included in the published opinion.

R506.2.3 Vapor Retarder. A 6-mil (0.006 inch; 152 µm) polyethylene or approved vapor retarder with joints lapped not less than 6 inches (152 mm) shall be placed between the concrete floor slab and the base course or the prepared subgrade where no base course exists.

Exception: The vapor retarder is not required for the following:

1. Garages, utility buildings and other unheated accessory structures.
2. For unheated storage rooms having an area of less than 70 square feet (6.5 m²) and carports.
3. Driveways, walks, patios and other flatwork not likely to be enclosed and heated at a later date.
4. Where approved by the building official, based on local site conditions.

AF103.3 Soil-Gas-Retarder. A minimum 6-mil (0.15 mm) [or 3-mil (0.075 mm) cross-laminated] polyethylene or equivalent flexible sheeting material shall be placed on top of the gas-permeable layer prior to casting the slab or placing the floor assembly to serve as a soil-gas-retarder by bridging any cracks that develop in the slab or floor assembly, and to prevent concrete from entering the void spaces in the aggregate base material. The sheeting shall cover the entire floor area with separate sections of sheeting lapped at least 12 inches (305 mm). The sheeting shall fit closely around any pipe, wire or other penetrations of the material. All punctures or tears in the material shall be sealed or covered with additional sheeting.