

REVIEW AND RECOMMENDATION FOR UNDER-SLAB GROUND COVER/VAPOR
RETARDER ISSUES – SECTION R506.2.3

The following is how I propose we amend the 2009 IRC, Section R506.2.3 – explanation/discussion is below the code. Please READ – this is or can be a controversial issue:

Proposed Code –

R506.2.3 Vapor-retarder Ground Cover. A 6 mil (0.006 inch; 152 um) polyethylene sheeting or approved ~~vapor-retarder~~ equal with joints lapped not less than ~~6~~ 12 inches (~~152~~ 305 mm) shall be placed between the concrete slab and the base course or the prepared subgrade where no base course exists.

Exception: The ~~vapor-retarder~~ ground cover may be omitted:

1. From detached 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. From driveways, walks, patios and other flatwork not likely to be enclosed and heated at another date.
4. Where *approved* by the *building official*, based on local site conditions.

Discussion: I recommend we approve the language as amended above.

1) The major change in this section IS NOT ADDING “Garages” to the exceptions. It is VERY common for garages to get converted to conditioned space in the future. While several preventative measures may be required to prevent moisture issues from occurring in concrete slabs (which is a major issue in “conditioned” spaces) is installation of a ground cover. In 2) and 3) below I will give reasons why this ground cover is important.

2) While concrete workers/finishers DO NOT like pouring concrete over a moisture barrier such as polyethylene, it is “necessary” for concrete to cure properly. Ask a structural engineer (such as Ravi) about pouring concrete over a compacted gravel base or dirt. They will say that use of these as a base will allow water to leave the concrete too fast and it will not cure properly. *My commentary: Ever wonder why so many garage slabs, driveways, and outdoor flatwork seem to have strength/cracking issues?*

3) From the wording in Exception 3 (which is currently in Oregon code), it is clear that code requires a ground cover underneath any slab that could be heated at a later date. For this reason and what I mentioned in 2) above, Oregon should NOT include “garage” (leave “detached garages”) in this section.

4) Current Oregon amendment simply/only states “polyethylene sheeting,” which not all of these types of material are suitable for installation under concrete slabs. The 6 mil poly language (which is in code) has always been considered an acceptable product or an approved equivalent material.