

FS127-18

IBC: TABLE 1404.3.2

Proponent: Jay Crandell, P.E., ARES Consulting, representing Foam Sheathing Committee of the American Chemistry Council

2018 International Building Code

Revise as follows:

**TABLE 1404.3.2
CLASS III VAPOR RETARDERS**

ZONE	CLASS III VAPOR RETARDERS PERMITTED FOR:^a
Marine 4	Vented cladding over wood structural panels Vented cladding over fiberboard Vented cladding over gypsum Continuous insulation with R-value \geq R2.5 over 2 x 4 wall Continuous insulation with R-value \geq R3.75 over 2 x 6 wall
5	Vented cladding over wood structural panels Vented cladding over fiberboard Vented cladding over gypsum Continuous insulation with R-value \geq R5 over 2 x 4 wall Continuous insulation with R-value \geq R7.5 over 2 x 6 wall
6	Vented cladding over fiberboard Vented cladding over gypsum Continuous insulation with R-value \geq R7.5 over 2 x 4 wall Continuous insulation with R-value \geq R11.25 over 2 x 6 wall
7 and 8	Continuous insulation with R-value \geq R10 over 2 x 4 wall Continuous insulation with R-value \geq R15 over 2 x 6 wall
8	<u>Continuous insulation with R-value \geq 12.5 over 2x4 wall.</u> <u>Continuous insulation with R-value \geq 20 over 2x6 wall</u>

For SI: 1 pound per cubic foot = 16 kg/m³.

- a. Spray foam with a maximum permanence of 1.5 perms at the installed thickness applied to the interior cavity side of wood structural panels, fiberboard, insulating sheathing or gypsum is deemed to meet the continuous insulation requirement where the spray foam *R*-value meets or exceeds the specified insulating sheathing *R*-value.

Reason:

This proposal corrects and inadvertent error when Table 1404.3.2 was first included in the code. Climate Zone 8 was not intended to be included with Climate Zone 7. Climate Zone 8 is a colder climate and requires additional continuous insulation to maintain proper moisture control and equivalent performance. The proposed *R*-values for Climate Zone 8 are consistent with the experience and technical basis for provisions in the other climate zones addressed in Table 1404.3.2. Refer to the bibliography for additional information and substantiation.

Bibliography:

Assessment of Hygrothermal Performance and Design Guidance for Modern Light-Frame Wall Assemblies, ASTM STP1599, J. H. Crandell, 2017, pp.362-394, https://www.astm.org/DIGITAL_LIBRARY/STP/PAGES/STP159920160097.htm

Assessment of Water Vapor Control Methods for Modern Insulated Light-Frame Wall Assemblies, ABTG Research Report No. 1410-03, Applied Building Technology Group LLC, 2015, <https://www.appliedbuildingtech.com/rr/1410-03>

Cost Impact

The code change proposal will increase the cost of construction .

This proposed technical correction of the code will increase the cost of construction only where using a Class III vapor retarder (e.g. latex paint) in Climate Zone 8. However, other vapor retarder options and wall assembly options are unchanged so, technically, this should not increase the cost of construction where these other options are used.

Internal ID: 999
