

Appendix P: Thermal & Ignition Barriers (11.22 Update)

WAP Thermal & Ignition Barrier Policies (General)

Two Rules

Rule 1 | This rule applies whenever the foam material installed is less than 3.25 inches thick, and is between a 0.5 – 2 lbs/ ft3 density, and meets the necessary flame/smoke index:

All sheet foam and/or two-part spray foam materials that are purchased and/or installed by the WAP during a project **shall**, at minimum, be covered with an acceptable thermal or ignition barrier **whenever the material is installed in an accessible living space and the material covers a continuous area greater than 30 square feet.**

Rule 2 | This rule applies whenever the foam material installed is greater than 3.25 inches thick, or is not between a 0.5 – 2 lbs/ ft3 density, or does not meet the necessary flame/smoke index:

All sheet foam and/or two-part spray foam materials that are purchased and/or installed by the WAP during a project **shall**, at minimum be covered with an acceptable thermal barrier (not w/ an ignition barrier) **no matter where it is installed and whenever the material covers a continuous surface area greater than 1 sq. ft.**

Notable Clarifications About the Two Rules Above

- ✚ The US Department of Energy’s Standard Work Specifications, i.e., “WAP requirements” do require a thermal barrier for any foam applications that are: (1) thicker than 3.25 inches, or (2) uses foam that is not between 0.5-2 lbs/ ft3 density or (3) uses foam that does not meet the necessary flame/smoke index.
- ✚ In any Vermont towns/municipalities that have a designated AHJ with authority that extends to owner-occupied, 1-dwelling unit buildings, foam-insulation-materials installed during a WAP project may need to be covered in instances where WAP rules would allow for an uncovered installation. The Vermont Office of Economic Opportunity will not play any role in clarifying or enforcing policies of any local AHJ within owner-occupied, 1-dwelling unit buildings. That is the joint responsibility of the local AHJ and the local WAP agency.
- ✚ The rules of an authority having jurisdiction (AHJ) shall always supercede WAP requirements. WAP requirements shall be used as the default requirements only in the absence of another AHJ. Whenever an authority having jurisdiction, e.g., a building code official or fire marshall, implements/requires more stringent policies than the WAP requirements, then the AHJ’s rules shall apply.



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WAP Thermal & Ignition Barrier Policies (Boxsills/Rimjoists)

- ✚ All foam products installed at the boxsill/rimjoist during a WAP project can be installed without a thermal or ignition barrier in owner-occupied, 1-dwelling unit buildings if, and only if:
 1. The foam material installed measures less than 3.25 inches thick
 2. The foam material is between a 0.5 – 2 lbs/ ft³ density
 3. The foam material meets the necessary flame/smoke index
- ✚ But even in an owner-occupied, 1-dwelling unit building, all of the foam installed at the boxsill/rimjoist perimeter during the WAP project shall be covered with an appropriate barrier whenever the foam installation continues more than one-inch down the interior facing side of the foundation wall in any spot of the application.
- ✚ In any Vermont towns/municipalities that have a designated AHJ with authority that extends to owner-occupied, 1-dwelling unit buildings, foam-insulation-materials installed during a WAP project at the boxsill/rimjoist perimeter may need to be covered in instances where WAP rules would allow for an uncovered installation. The Vermont Office of Economic Opportunity will not play any role in clarifying or enforcing policies of any local AHJ within owner-occupied, 1-dwelling unit buildings. That is the joint responsibility of the local AHJ and the local WAP agency.
- ✚ The rules of an authority having jurisdiction (AHJ) shall always supercede WAP requirements. WAP requirements shall be used as the default requirements only in the absence of another AHJ. Whenever an authority having jurisdiction, e.g., a building code official or fire marshal, implements/requires more stringent policies than the WAP requirements then the AHJ's rules shall apply.
- ✚ In any 1 (+) dwelling-unit rental property and in every 2 (+) dwelling-unit building, any and all foam installed at the boxsill/rimjoist perimeter during a WAP project shall be covered with an appropriate barrier per the policies of the AHJ.

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Definitions

Thermal Barrier

- In section R316.4, the International Residential Code (IRC) defines a thermal barrier as ½-inch gypsum wallboard or a material that is equal in fire resistance to ½- inch gypsum wallboard.

Ignition barrier

- In section R316.5.3 of the IRC, ignition barriers are defined as 1 and ½- inch- thick mineral fiber insulation; ¼-inch- thick wood structural panels; 3/8- inch-thick particleboard; ¼ -inch-thick hardboard; 3/8-inch-thick gypsum board; or corrosion-resistant steel.

Intumescent Coating

- An intumescent coating is neither a thermal or ignition barrier because it is difficult to measure the installed thickness. However, intumescent coating is allowable to use as an alternative to either type of barrier when it (a) passes the applicable thermal or ignition barrier testing requirements and (b) the spray foam manufacturer has approved the coating to be used with their product.

Accessible v. Non-Accessible Living Space

- Any area of the home that would require the use of tools, a ladder or a pull-down staircase in order for a person to gain access into the space can be considered non-accessible living space.
- All other spaces within the home shall be considered accessible living space.
- The vertical or horizontal assembly that separates the accessible living space from the non-accessible living space shall be the surface where the thermal or ignition barrier requirement is applied.

