

GEORGIA DEPARTMENT OF COMMUNITY AFFAIRS

CODE AMENDMENT FORM

ITEM NO: _____ (DCA USE ONLY)

PAGE 1 OF 3

CODE: 2018 Georgia State Minimum Standard
One and Two Family Dwelling Code

SECTION: R318.4

PROPOSER: Spray Polyurethane Foam Alliance,
Richard S. Duncan, PhD, PE, Tech Director

DATE: 12-12-19

EMAIL: rickduncan@sprayfoam.org
11 Hope Road, Suite 111 #308

ADDRESS: Stafford, VA 22554

TELEPHONE NUMBER: (703)222-4269

FAX NUMBER: (703)543-0389

CHECK Revise section to read as follows:

Add new section to read as follows:

ONE: Delete section and substitute the following:

Delete without substitution:

~~LINE THROUGH MATERIAL TO BE DELETED:~~

UNDERLINE MATERIAL TO BE ADDED

Approve

Approve as amended

(DCA STAFF ONLY)

Disapprove

Withdrawn

DESCRIPTION:

Termite Inspection Access for Finished Basements

Add this to Section R318.4

When a basement interior is finished for occupancy, complete access to the sill plate and top of foundation shall be provided facilitate visual termite inspection.

1. The top plate of all finished basement wall framing shall be a minimum of 3" below the top of the foundation wall
2. The basement ceiling within 24" of any finished wall shall be constructed for easy removal.

REASON/INTENT:

Access to the sill plate and top of the foundation is necessary to perform regular visual inspections for subterranean termites. Permanently installed wall and ceiling assemblies in finished basements, typically consisting of framing and interior cladding such as gypsum board prevent access.

To provide access for regular visual inspection, the top of the interior finished wall assembly must be at least 3" below the top of the foundation wall. The ceiling must be easily removable within 24" of all finished walls, requiring the use of a non-interlocking, suspended tile ceiling or a gypsum board ceiling with removable panels.

FINANCIAL IMPACT OF PROPOSED AMENDMENT:

This proposed amendment does not represent a significant increase in cost compared to the use of a solid, non-removable ceiling system.

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CODE AMENDMENT FORM INSTRUCTION SHEET

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2. Use a separate form for each proposed code amendment.
3. "Sheet ____ of ____" indicates the number of sheets for each individual proposed code amendment, not the number of sheets for all the amendments submitted.
4. Identify the code and code section that is the subject of the proposed amendment.
5. The proponent's name, address, telephone number and fax number must be filled out completely.
6. Be sure to indicate the type of recommended action in the space referred to as "Check One".
7. If the proposed amendment revises the language of the code section, deletes the entire code section, or deletes the entire code section and offers substitute language, include the language of the present code section and line through the language to be deleted and underline the language of the proposed amendment.
8. Under the "Reason" section, provide the reasoning behind the proposed code amendment. The reason should be clear and concise. Test reports, standards or other supporting information and documentation may be submitted with the proposed amendment and must be attached to the amendment form.
9. **A Statement of Financial Impact must accompany all proposed code amendments.** The statement should be clear and concise. Test reports, standards or other supporting information and documentation may be submitted with the proposed amendment and must be attached to the amendment form.
10. **All proposed amendments must be typed and completed in full and the original submitted to the Codes and Industrialized Buildings Section of the Department of Community Affairs NO LATER THAN DECEMBER 15TH.** The proposed code change shall be submitted for review to the State Codes Advisory Committee at their quarterly meeting in January. An incomplete form will be sent back to the proponent for completion. An amendment submitted after the submittal deadline date will be returned to the proponent.
11. The proponent will be notified when the proposed amendment will be considered by the State Codes Advisory Committee.

12. Information concerning submittal of code amendments, including deadline dates for submittal, can be obtained by contacting the Codes and Industrialized Buildings Section at (404) 679-3118. All proposed code amendments should be submitted to:

The Department of Community Affairs
Codes and Industrialized Buildings Section
60 Executive Park South, NE
Atlanta, Georgia 30329-2231

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Approve Approve as amended (DCA STAFF ONLY) Disapprove Withdrawn

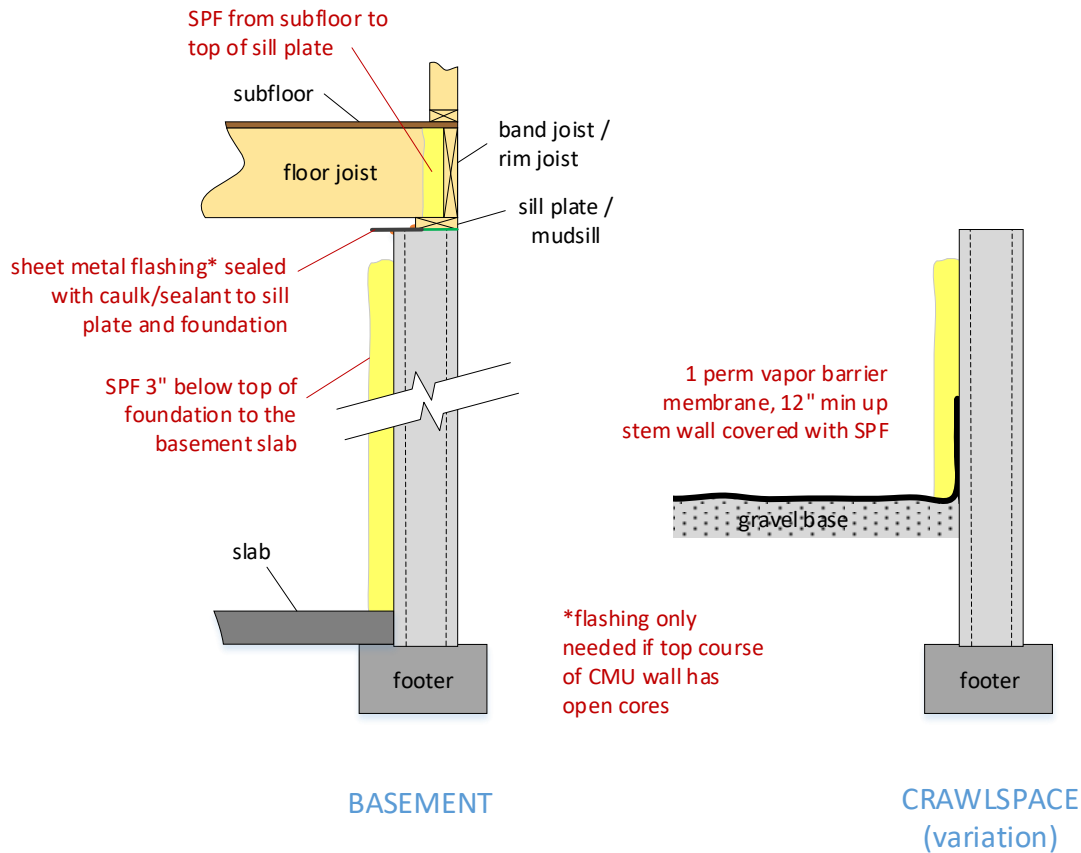
DESCRIPTION:

Allowable Installation of Spray Polyurethane Foam Insulation to Permit Visual Inspection for Subterranean Termites at the Framing-Foundation Interface

Add this to Section R318.4

When spray polyurethane foam insulation and air sealing is used on the interior walls of basements and crawlspaces, it shall be permitted to be installed as shown in Figure X, where

1. A layer of foam covers the entire interior surface of the band joist/rim joist from the subfloor to the top of the sill plate / mudsill
2. A layer of foam covers the entire interior surface of the foundation wall, starting at least 3" from the top and down to the slab/soil floor. If this is a crawlspace, a 1-perm vapor retarder shall cover the gravel base and extending 12" up the stem wall and covered with spray polyurethane foam
3. The side of the sill plate / mudsill and the top 3" of the foundation wall shall be left exposed to permit visual inspection for termites
4. The sill plate shall be sealed to the foundation using sill sealing materials. For CMU block walls without a solid top surface, a metal flashing sealed to the foundation and sill plate may be used.



REASON/INTENT:

Spray polyurethane foam (SPF) is commonly used to insulate and air seal the interior side of the foundation-framing interface in buildings. It is a single-step application where liquid chemicals are mixed onsite and applied to a suitable substrate. These chemicals expand and cure into a foam plastic that provides insulation (R-value) and seals cracks and gaps against unwanted exfiltration of conditioned air and infiltration of outdoor air.

Sufficient insulation levels (N1102.1.2) and reduced air leakage (N1102.4.1.2) are two critical components of energy-efficient buildings and are currently required by *2018 Georgia State Minimum Standard One and Two Family Dwelling Code*

One of the most critical areas for air infiltration is where the foundation meets the framing. This is because the 'stack effect' cause hot air to rise and pressurize the top levels of the building, resulting in exfiltration of conditioned air. This air exfiltration is replaced by infiltration of unconditioned outside air at the lower pressure low-levels of the building – most critically at the cracks and gaps where the framing meets the foundation. In hot-humid climates this moisture-laden infiltrating air can condense on adjacent framing leading to mold and mildew, and providing ideal conditions for termites.

Insulation and air sealing of the foundation-framing interface is critical to meeting current air leakage requirements. Cracks and gaps in these areas include where the:

- subfloor meets the top of the band joist.
- bottom of the band joist meets the top of the sill plate (mud sill)
- bottom of the sill plate meets the top of the foundation.

While removable air-permeable insulation batts (typically fiberglass) can be used to insulate these areas, caulking/sealing of these cracks and gaps is necessary, which is difficult, time consuming and even impossible in some walls where band joist are parallel to the floor joist. Repeated removal and replacement of fibrous insulation will result in wear and the insulation is unlikely to be replaced by untrained persons to its original RESNET Grade 1 condition required for EnergyStar programs. Use of cut foam board with perimeter sealants provide another alternative that is also difficult and time consuming.

SPF is currently the most cost-effective means for insulating and air sealing the interior of the foundation-framing interface. Ideally, SPF would be applied in a continuous manner from the bottom of the subfloor, over the exposed surfaces of the band joist and sill plate and continued down the entire foundation wall to the floor of the basement/crawlspace. This provides a continuous layer of insulation and air barrier.

In areas such as the entire state of Georgia, with a high-probability of subterranean termites, a continuous layer of SPF may not be desirable. Permanently installed insulation and air sealing materials, including SPF or foam board with sealants, will prevent a visual inspection of the foundation wall for the formation of mud tubes and probing of the sill plate for signs of termite damage. The SPF industry has consulted with several pest management contractors, and it is understood that the top of the foundation and the side edge of the sill plate must be left exposed uncovered by SPF. This will allow visual inspection for early signs of subterranean termite infestation and subsequent use of supplemental non-visual inspection methods, including IR cameras and acoustic emission (TermaTrac) devices for surrounding areas where visual detection of termites are found.

The proposed change allows for the use of SPF over the entire band joist, effectively sealing the first two of the three aforementioned cracks and gaps. It leaves the side of the sill plate and 3" at the top of the foundation exposed for visual inspection. It also includes a metal flashing between the sill plate and foundation which is caulked/sealed to the sill plate and foundation to eliminate leakage from the third of the listed cracks and gaps. While not providing a continuous layer of insulation, this proposed design addresses all of the areas where air infiltration is most critical.

FINANCIAL IMPACT OF PROPOSED AMENDMENT:

This proposed amendment does not represent an increase in cost compared to the use of alternatives that include (1) removable air-permeable insulation with caulking and sealing of the cracks and gaps or (2) permanent installation of foam board insulation with a perimeter air seal.

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