SYSTEM AND METHOD FOR APPLYING INSULATION TO FOUNDATION WALLS

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ABSTRACT

A system for applying insulation to foundation walls, including a plurality of partitions, each partition defining a longitudinal axis and including a base configured to be fastened to an interior surface of a foundation wall and a baffle extending from the base along an axis substantially perpendicular to the longitudinal axis of the partition.
SYSTEM AND METHOD FOR APPLYING INSULATION TO FOUNDATION WALLS

BACKGROUND OF INVENTION

[0001] Particulate, adhesive insulation, usually composed of cellulose, is frequently blown onto interior surfaces of the foundation walls of a dwelling to help reduce the effect of outdoor ambient air temperature on the air temperature inside the dwelling. In some instances, such insulation includes a heightened percentage of boric acid or other pesticides in order to also serve the function of killing insect pests in the foundation of the dwelling that, without pesticide, may live and breed in the foundation and ultimately infest the interior of the dwelling. But regardless of whether the insulation includes a pesticide, a system and method for consistent, uniform application of the insulation is desirable.

BRIEF DESCRIPTION OF THE DRAWINGS

[0002] FIG. 1 is a fragmentary elevational view of a foundation wall with a system according to an embodiment of the invention installed thereon;

[0003] FIG. 2 is a fragmentary cross-sectional view taken through line 2-2 of FIG. 1;

[0004] FIG. 3 is a fragmentary cross-sectional view taken through line 3-3 of FIG. 1; and

[0005] FIG. 4 is a fragmentary cross-sectional view of the system shown in FIG. 1 being installed.

DETAILED DESCRIPTION

[0006] A portion of a foundation wall of a dwelling is shown broadly at reference numeral 10 in FIG. 1 with a longitudinal axis “X1”. A system for applying insulation to foundation walls 11 is installed on an interior surface 12 of the wall 10. The system 11 includes a plurality of substantially parallel, spaced apart partitions 13, each of which defines a longitudinal axis “X2”. Each pair of adjacent partitions 13 defines a cell 14 for receiving particulate adhesive insulation 15 such as blown cellulose insulation. Looking also at FIG. 2, each partition 13 comprises a base 16 of two opposing, wall-engaging base panels 17 configured to be fastened to the interior surface 12 of the wall 10 in substantially parallel relation thereto, and a baffle 20 extending from the base 16 along an axis “X3” (FIG. 2) substantially perpendicular to the longitudinal axis “X2” defined by the partition 13. In one embodiment, the partition 13 may be formed from a single, continuous piece of sheet metal. The partition 13 formed in this manner comprises a first base panel 21, a first bend 22 forming a first angle “A” of approximately 90 degrees, a first baffle panel 23, a second bend 24 defining an outwardmost edge 25 and forming a second angle “B” of approximately 340-355 degrees, a second base panel 30, a third bend 31 forming a third angle “C” of approximately 90 degrees, and a second base panel 33. The first and second baffle panels 23, 30 comprise opposing major surfaces 26, 27 of the baffle 20. Optionally, the opposing major surfaces 26 of the baffle 20 may each define a groove 34, 36. The grooves 34, 36 are substantially aligned with one another and are substantially parallel to the longitudinal axis “X2” of the associated partition 13.

[0007] The partition 13 may be either unitary, for instance in the continuous sheet metal embodiment described above, or in the alternative, an assembly of multiple components. Another unitary embodiment of the partition 13 may comprise a baffle (not shown) that includes a single baffle panel having opposing major surfaces substantially parallel to one another that optionally define opposing grooves. In any event, the baffle 20 may be unported in order to more effectively isolate adjacent cells 14 from one another, and the size of the baffle 20 may be adjusted such that the distance between the outwardmost edge 25 of the baffle 20 and the interior surface 12 of the wall 10 enables the cells 14 to accommodate a sufficient amount of insulation to comply with prevailing building codes.

[0008] Optionally, the system 11 may further comprise a drape 35 and a plurality of clips 40 (FIGS. 1 and 3) to be installed to obscure one or more of the cells 14 to retain the insulation 15 in place. The drape 35 is installed by utilizing the plurality of clips 40 to attach the drape 35 to the partitions 13. As shown in FIG. 3, each of the clips 40 comprises a pair of legs 41, each leg 41 terminating at a foot 42 oriented substantially perpendicularly to the leg 41. A portion of the drape 35 may be grasped between the legs 41 of the clip 40 and the feet 42 of the clip 40 may then be inserted into the opposing grooves 34 defined by the baffle panels 23, 30 of the partition 13, thereby utilizing the clips 40 to clip the drape 35 to the partition 13. The drape 35 may also be attached to floor joists 43 (FIG. 1) in order to cover a band board 44 (FIG. 1) between the wall 10 and a subfloor 45 (FIG. 1). The drape 35 may be porous or nonporous fabric.

[0009] In addition, the system 11 may optionally further comprise a bottom ledge 50 formed and configured in a substantially identical manner described above relative to the partitions 13 but oriented below and in substantially perpendicular relation to the partitions 13 on the interior surface 12 of the wall 10. For instance, the bottom ledge 50 may be unitary or an assembly of multiple components and may define grooves (not shown) substantially identical to the grooves 34, 36 defined by the partitions 13. In addition, the bottom ledge 50 comprises first and second base panels 51, 52 and a baffle 53. The bottom ledge 50 may be installed along the interior surface 12 of the wall 10 either in segments (not shown) or as a single unit, as available materials permit. The drape 35 may optionally be clipped to the bottom ledge 50 in the same manner as the drape 35 is clipped to the partitions 13.

[0010] The system 11 is installed and used in the following manner. The partitions 13 and the bottom ledge 50 are provided and installed on the wall 10 by ram setting, nailing, or otherwise fastening the base panels 21, 33 of each partition 13 to the interior surface 12 of the wall 10 with fasteners 54. Ground-covering material such as plastic sheeting (not shown) may be fastened underneath the second base panel 52 of the bottom ledge 50 in order to help provide a more impervious barrier between the ground and the foundation. Insulation 15 is applied to the wall 10 and in the cells 14 using insulation and insulation blowing equipment known to those of ordinary skill in the art. As shown in FIG. 4, excess insulation “E” is applied to overflow the cells 14 such that, along an axis “X4” substantially perpendicular to the longitudinal axis “X1” of the wall 10, at least a portion of the insulation 15 is further from the interior surface 12 of the wall 10 than from the outwardmost edges 25 of the baffles 20 of the partitions 13. A tool “I” comprising a work portion “W” that defines a longitudinal axis “X5” substantially parallel to the such as a scrapper or other tool known to those of ordinary skill in the art is then obtained, oriented to contact the outwardmost edges 25 of adjacent baffles 20, and moved along the outwardmost edges 25 of adjacent baffles 20 to remove the excess insula-
tion “E” that extends beyond the outwardmost edges 25 of the baffles 20 along the axis “X4”. Optionally, the drape 35 and the plurality of clips 40 may then be installed in the manner described above.

[0011] A system and method for applying insulation to foundation walls is described above. Although the disclosed embodiments of the invention include the best mode for practicing the invention, the disclosed embodiments may be modified without departing from the scope of the invention. The precise scope of the invention is set forth in the following claims.

What is claimed is:
1. A system for applying insulation to foundation walls, comprising:
   a plurality of partitions, each partition defining a longitudinal axis and comprising a base configured to be fastened to an interior surface of a foundation wall, and a baffle extending from the base along an axis substantially perpendicular to the longitudinal axis of the partition.
2. A system according to claim 1, wherein each baffle comprises two opposing major surfaces.
3. A system according to claim 2, wherein the two opposing major surfaces of at least a portion of the baffles each define a groove, the grooves defined by the opposing major surfaces of a single baffle being substantially aligned with one another and substantially parallel to the longitudinal axis of the associated partition.
4. A system according to claim 3, further comprising a plurality of clips and a drape, each of the clips being configured for engagement with a portion of the drape and for insertion into the opposing grooves defined by the opposing major surfaces of the baffle of one of the plurality of partitions.
5. A system for applying insulation to foundation walls, comprising:
   a foundation wall comprising an interior surface;
   a plurality of partitions, each partition defining a longitudinal axis and comprising
   a base fastened to the interior surface of the foundation wall, and
   a baffle extending from the base along an axis substantially perpendicular to the longitudinal axis of the partition.
6. A system according to claim 5, wherein the plurality of partitions are spaced apart and substantially parallel to one another.
7. A system according to claim 5, wherein each baffle comprises two opposing major surfaces.
8. A system according to claim 7, wherein the two opposing major surfaces of at least a portion of the baffles each define a groove, the grooves defined by the opposing major surfaces of a single baffle being substantially aligned with one another and substantially parallel to the longitudinal axis of the associated partition.
9. A system according to claim 8, further comprising a plurality of clips and a drape, wherein each of the clips engage a portion of the drape and partially reside within the opposing grooves defined by the opposing major surfaces of the baffle of one of the plurality of partitions.

10. A method for applying insulation to foundation walls, comprising:
    providing a plurality of partitions, each partition defining a longitudinal axis and comprising a base configured to be fastened to an interior surface of a foundation wall and a baffle comprising an outwardmost edge and extending from the base along an axis substantially perpendicular to the longitudinal axis of the partition;
    fastening the bases of the partitions to the interior surface of the foundation wall;
    applying insulation to the foundation wall such that along an axis substantially perpendicular to the foundation wall, an excess portion of the insulation is further from the interior surface of the foundation wall than from the outwardmost edges of the baffles of the plurality of partitions;
    obtaining an insulation removal tool comprising a work portion that defines a longitudinal axis substantially parallel to the longitudinal axis of the foundation wall;
    selecting the baffles of at least two adjacent partitions for contact by the work portion of the insulation removal tool;
    contacting the outwardmost edges of the selected baffles with the work portion of the insulation removal tool; and
    moving the work portion of the insulation removal tool along the outwardmost edges of the selected baffles such that the excess portion of the insulation between the selected baffles is removed.

11. A method according to claim 10, wherein the baffle of each partition of the plurality of partitions provided in said providing step comprises two opposing major surfaces.

12. A method according to claim 11, wherein the two opposing major surfaces of at least a portion of the baffles of the plurality of partitions provided in said providing step each define a groove, the grooves defined by the opposing major surfaces of a single baffle being substantially aligned with one another and substantially parallel to the longitudinal axis of the associated partition.

13. A method according to claim 10, further comprising:
    providing a plurality of clips and a drape; and
    utilizing the plurality of clips to clip the drape to at least a portion of the baffles of the plurality of partitions.

14. A method according to claim 13, wherein the baffle of each partition of the plurality of partitions provided in said providing step comprises two opposing major surfaces.

15. A method according to claim 14, wherein the two opposing major surfaces of at least a portion of the baffles of the plurality of partitions provided in said providing step each define a groove, the grooves defined by the opposing major surfaces of a single baffle being substantially aligned with one another and substantially parallel to the longitudinal axis of the associated partition.