ATTACHMENT COMPONENTS FOR SECURING PORTIONS OF A STRUCTURE WITH INTEGRATED INSULATION TO ONE ANOTHER

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ABSTRACT

A structure with integrated insulation. The structure with integrated insulation includes a steel frame. The steel frame includes a first support beam and a second support beam. The structure with integrated insulation also includes an assembly with integrated insulation. The assembly with integrated insulation includes a first building panel with integrated insulation, the first building panel with integrated insulation being attached to the first support beam on the first surface of the first building panel with integrated insulation. The assembly with integrated insulation also includes a second building panel with integrated insulation, the second building panel with integrated insulation being attached to the second support beam on the second surface of the second building panel with integrated insulation. The structure with integrated insulation further includes a panel connection configured to attach the first edge of the first building panel with integrated insulation to the second edge of the second building panel with integrated insulation.

100

102a

104

106

102b
ATTACHMENT COMPONENTS FOR SECURING PORTIONS OF A STRUCTURE WITH INTEGRATED INSULATION TO ONE ANOTHER

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application is related to co-pending U.S. patent application Ser. No. ______, filed on Feb. 5, 2014 (Attorney Docket No. 10457.1), and entitled, "STRUCTURE WITH INTEGRATED INSULATION", which application is incorporated herein by reference in its entirety (hereinafter "first related application").

[0002] This application is related to co-pending U.S. patent application Ser. No. ______, filed on Feb. 5, 2014 (Attorney Docket No. 10457.3), and entitled, "ATTACHMENT COMPONENTS FOR SECURING PORTIONS OF A STRUCTURE WITH INTEGRATED INSULATION TO ONE ANOTHER", which application is incorporated herein by reference in its entirety (hereinafter "second related application").

[0003] This application is related to co-pending U.S. patent application Ser. No. ______, filed on Feb. 5, 2014 (Attorney Docket No. 10457.4), and entitled, "THERMAL BREAKS WITHIN A STRUCTURE WITH INTEGRATED INSULATION", which application is incorporated herein by reference in its entirety (hereinafter "third related application").

BACKGROUND OF THE INVENTION

[0004] In most buildings various portions of the structure are attached to one another using mechanical fasteners. For example, when framing a home the boards may be attached to one another using nails, attached to the floor using bolts, attached to drywall using screws, etc. Mechanical fasteners are convenient because they may be placed quickly and they are relatively cheap. Further, the placement of the mechanical fasteners may be customized during the building process, i.e., nails can be driven wherever required. Nevertheless, mechanical fasteners suffer from a number of drawbacks.

[0005] For example, mechanical fasteners tend to have a small cross-section. This means that they are suitable for resisting tension (force that tends to separate the attached objects) but not for resisting shear (force that tends to move the attached objects laterally relative to one another). In addition, mechanical fasteners attach objects at discrete points, allowing for much larger areas that remain unattached. These unattached points may lead to air gaps that can cause thermal bridging.

[0006] Moreover, mechanical fasteners are much more difficult to use when building a structure with integrated insulation. Over time, the mechanical fasteners undergo small movements. These movements result from ground vibrations, general use, wind, etc. These small movements eventually loosen the mechanical fasteners to a degree that they completely fail to perform their intended function.

[0007] Accordingly, there is a need in the art for an attachment system that is suitable for use in a structure with integrated insulation. Further, there is a need for the attachment system to work independent of mechanical fasteners.

BRIEF SUMMARY OF SOME EXAMPLE EMBODIMENTS

[0008] This Summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This Summary is not intended to identify key features or essential characteristics of the claimed subject matter, nor is it intended to be used as an aid in determining the scope of the claimed subject matter.

[0009] One example embodiment includes a structure with integrated insulation. The structure with integrated insulation includes a steel frame. The steel frame includes a first support beam and a second support beam. The structure with integrated insulation also includes an assembly with integrated insulation. The assembly with integrated insulation includes a first building panel with integrated insulation. The first building panel with integrated insulation includes a first surface, a second surface, wherein the second surface is opposite the first surface, a first edge, wherein the first edge is disposed between the first surface and the second surface and a second edge, wherein the second edge is disposed between the first surface and the second surface and is opposite the first edge, the first building panel with integrated insulation being attached to the first support beam on the first surface of the first building panel with integrated insulation, wherein the attachment between the first support beam and the first building panel with integrated insulation includes adhesive over the entirety of the web of the first support beam in contact with the first building panel with integrated insulation. The assembly with integrated insulation also includes a second building panel with integrated insulation. The second building panel with integrated insulation includes a first surface, a second surface, wherein the second surface is opposite the first surface, a second edge, wherein the second edge is disposed between the second surface and the second surface and a second edge, wherein the second edge is disposed between the second surface and the second surface and is opposite the second edge, the second building panel with integrated insulation being attached to the second support beam on the second surface of the second building panel with integrated insulation, wherein the attachment between the second support beam and the second building panel with integrated insulation includes adhesive over the entirety of the web of the second support beam in contact with the second building panel with integrated insulation. The structure with integrated insulation further includes a panel connection configured to attach the first edge of the first building panel with integrated insulation to the second edge of the second building panel with integrated insulation.

[0010] Another example embodiment includes a structure with integrated insulation. The structure with integrated insulation includes a steel frame. The steel frame includes a first support beam, a second support beam and a post. The structure with integrated insulation also includes an assembly with integrated insulation. The assembly with integrated insulation includes a first building panel with integrated insulation. The first building panel with integrated insulation includes a first surface, a second surface, wherein the second surface is opposite the first surface, a first edge, wherein the first edge is disposed between the first surface and the second surface and a second edge, wherein the second edge is disposed between the first surface and the second surface and is opposite the first edge, the first building panel with integrated insulation being attached to the first support beam on the first surface of the first building panel with integrated insulation, wherein the attachment between the first support beam and the first building panel with integrated insulation includes adhesive over the entirety of the web of the first support beam in contact with the first building panel with integrated insulation.
assembly with integrated insulation also includes a second building panel with integrated insulation. The second building panel with integrated insulation includes a first surface, a second surface, wherein the second surface is opposite the second surface, a second edge, wherein the second edge is disposed between the second surface and the second surface and a second edge, wherein the second edge is disposed between the second surface and the second surface and is opposite the second edge, the second building panel with integrated insulation being attached to the second support beam on the second surface of the second building panel with integrated insulation, wherein the attachment between the second support beam and the second building panel with integrated insulation includes adhesive over the entirety of the web of the second support beam in contact with the second building panel with integrated insulation. The structure with integrated insulation further includes a first panel connection configured to attach the first edge of the first building panel with integrated insulation to the second edge of the second building panel with integrated insulation and a second panel connection, the second panel connection configured to attach the second edge of the second building panel with integrated insulation to the post.

These and other objects and features of the present invention will become more fully apparent from the following description and appended claims, or may be learned by the practice of the invention as set forth hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

To further clarify various aspects of some example embodiments of the present invention, a more particular description of the invention will be rendered by reference to specific embodiments thereof which are illustrated in the appended drawings. It is appreciated that these drawings depict only illustrated embodiments of the invention and are therefore not to be considered limiting of its scope. The invention will be described and explained with additional specificity and detail through the use of the accompanying drawings in which:

FIG. 1 illustrates an example of a panel attachment;
FIG. 2 illustrates an example of an alternative panel attachment;
FIG. 3A illustrates an example of a panel connection for use with an exterior wall panel;
FIG. 3B illustrates an example of a panel connection for use with an interior wall panel;
FIG. 4 illustrates an example of a panel attachment;
FIG. 5A illustrates an example of a post with a single female attachment;
FIG. 5B illustrates an example of a post with a double female attachment;
FIG. 6A illustrates an example of a stud for use with an exterior wall panel;
FIG. 6B illustrates an example of a double female stud for use with an exterior wall panel;
FIG. 6C illustrates an example of a stud for use with an interior wall panel;
FIG. 7A illustrates a header for an interior wall; and
FIG. 7B illustrates a header for an exterior wall.

DETAILED DESCRIPTION OF SOME EXAMPLE EMBODIMENTS

Reference will now be made to the figures wherein like structures will be provided with like reference designations. It is understood that the figures are diagrammatic and schematic representations of some embodiments of the invention, and are not limiting of the present invention, nor are they necessarily drawn to scale.

FIG. 1 illustrates an example of a panel attachment 100. The panel attachment 100 is configured to attach a building panel with integrated insulation together to an adjoining member in a structure with integrated insulation (as described in first related application). For example, the adjoining member can include another building panel with integrated insulation, a post, a door jamb, a window sill or any other adjoining member. E.g., the panel attachment 100 can allow two panels to be secured to one another, such as with glue or other adhesive, mechanical fasteners, or any other desired attachment method. As an example herein, the panel attachment 100 will be described as an attachment between a first roof panel...
FIG. 1 shows that the panel attachment 100 can include a tongue 104. The tongue 104 is a portion of the panel that protrudes from the panel to be received by the adjoining panel. I.e., the tongue 104 is a male end configured to mate with a portion of the adjoining panel. The tongue 104 can include a protrusion of any desired shape. For example, the tongue can be trapezoidal, rectangular, round or any other desired shape. A trapezoid includes a convex quadrilateral with at least one pair of parallel sides. The parallel sides are called the base (larger side) and crown (smaller side) of the trapezoid and the other two sides are called the legs or the lateral sides (if they are not parallel; otherwise there are two pairs of bases). As used in the specification and the claims, the phrase “configured to” denotes an actual state of configuration that fundamentally ties recited elements to the physical characteristics of the recited structure. As a result, the phrase “configured to” reaches well beyond merely describing functional language or intended use since the phrase actively recites an actual state of configuration.

FIG. 1 also shows that the panel attachment 100 can include a groove 106. The groove is configured to receive the tongue 104. I.e., the groove 106 is shaped similarly to the tongue to allow the tongue 104 to be inserted and attached to the groove 106. The groove 106 may be deeper than the tongue 104 to ensure enough room for the tongue 104. For example, if the panel is a roof panel then the panel can be approximately 8 inches wide. The first tongue 104 can be located 1 inch from the top surface of the roof panel. The base of the first tongue 104 and the first groove 106 can be approximately two inches wide and the crown can be approximately 1.75 inches and the height of the first tongue 104 can be approximately 0.75 inches and the height of the first groove 106 can be approximately 0.78 inches (to ensure that the entirety of the first tongue 104 can be inserted into the first groove 106). The second tongue 104 can be of similar size with the base of the second tongue 104 located approximately 1.7 inches from the base of the first tongue 104. Thus the base is approximately 1.3 inches from the bottom surface. This lack of symmetry can ensure that users easily identify the correct orientation of the panels relative to one another. One of skill in the art will appreciate that the area between the first tongue 104 and the second tongue 104 acts as a groove 106 and vice versa. As used in the specification and the claims, the term approximately shall mean that the value is within 10% of the stated value, unless otherwise specified.

FIG. 2 illustrates an example of an alternative panel attachment 200. In particular, the panel attachment 200 can be used to connect to roof panels 102 at the peak or “ridge” of a roof. The panel attachment 200 can include a round tongue 202 and round groove 204. For example, the first tongue 202 can be a semicircle of approximately 1 inch radius located approximately 1.5 inches from the top of the roof panel. The second tongue 202 can be located approximately 1 inch from the first tongue and can be of similar size. If the roof panels 102 are 8 inches and the pitch is ⅜ then the total length of the edge to be adjusted can be 8.9443 inches, which results in a gap between the bottom tongue 202 and the bottom surface of 2.4443 inches.

FIGS. 3A and 3B (collectively “FIG. 3”) illustrate an example of a panel connection 100 for use with wall panels 302 (as described in first related application). FIG. 3A illustrates an example of a panel connection 100 for use with an exterior wall panel 302; and FIG. 3B illustrates an example of a panel connection 100 for use with an interior wall panel 302. The wall panels 302 are approximately six inches for an exterior wall or load bearing wall and approximately four inches for an interior or non-load bearing wall. The groove 106 can be approximately 2 inches wide at the base, approximately 1.75 inches wide at the peak and approximately 0.78 inches deep and centered at the side of the wall panel 302 for the exterior wall. For the interior wall the groove 106 can be approximately 1.5 inches wide at the base, approximately 1.25 inches wide at the peak and approximately 0.75 inches deep and centered at the side of the wall panel 302.

FIG. 4 illustrates an example of a panel attachment 400. The panel attachment can be configured to ensure that adjacent floor panel with integrated insulations 402 are flush with one another and snug with one another (i.e., no gap between them). For example, the panel attachment 400 can include a vertical tongue and groove (T&G) connection. I.e., the T&G connection can be on a portion of the floor panel with integrated insulation 402 that protrudes from the main body of the floor panel with integrated insulation 402 so that the T&G joint is aligned vertically, rather than horizontally. A vertical T&G connection ensures that a vertical force on the floor panel with integrated insulation 402 does not cause adjacent panels to become misaligned (i.e., not flush) one to another. Additionally or alternatively, the panel attachment 400 can create a c-channel indentation 404 that is configured to receive a wall panel or other structural element. For example, the protrusion that includes the male end of the T&G in FIG. 2C has a portion missing on the bottom. This c-channel indentation 404 can be approximately 4 inches wide and 2 inches deep to receive a 4 inch wall panel.

FIGS. 5A and 5B (collectively “FIG. 5”) illustrate an example of a post 500. FIG. 5A illustrates an example of a post 500 with a single female attachment; and FIG. 5B illustrates an example of a post 500 with a double female attachment. The post 500 is a main vertical or leaning support in a structure with integrated insulation similar to a column or pillar. I.e., the post 500 is used to support other elements of a structure with integrated insulation. In particular, the post 500 can be used to support a ceiling, roof, floor or other element within the structure with integrated insulation. The post 500 can be made of wood, stone, metal (such as steel or aluminum) or any other desired material.

FIG. 5 shows that the post 500 can include one or more grooves 106. The groove 106 can allow the post 500 to be attached to a wall panel with integrated insulation, roof panel with integrated insulation, floor panel with integrated insulation or other adjoining member. For example, if the post 500 is configured to attach to an interior wall panel, the post 500 can be 4 inches by 4 inches (or 4 inches by six inches if the post 500 is also attached to an exterior wall panel). One of skill in the art will appreciate that the post 500 can include one or more tongues rather than one or more grooves, depending on the adjoining member. One of skill in the art will further appreciate that lumber dimensions are nominal dimensions and not actual dimensions (for example, a “4x4” post in lumber would be 3.5x3.5 in actual dimensions); however, the post 500 must match the dimensions of the wall panel, or other adjoining member, so the size will be given in actual dimensions rather than nominal dimensions.

FIGS. 6A, 6B and 6C (collectively “FIG. 6”) illustrate an example of a stud 600. FIG. 6A illustrates an example of a stud 600 for use with an exterior wall panel; FIG. 6B illustrates an example of a stud 600 for use with an exterior wall panel; FIG. 6C illustrates an example of a stud 600 for use with an exterior wall panel.
illustrates an example of a double female stud 600 for use with an exterior wall panel; and FIG. 6C illustrates an example of a stud 600 for use with an interior wall panel. The stud 600 can be configured to allow attachment of external elements to the building panel with integrated insulation. For example, the stud 600 can be used to attach door frames, windows or any other external element. I.e., the stud 600 is attached to the wall panel with integrated insulation, using glue or some other desired attachment method, and the external element is attached to the stud 600. When doors and windows are framed, extra reinforcement is required. There are two reasons for this. The first is that doors and windows are points of structural weakness, because support studs must be omitted or moved to accommodate the opening. The second is that doors and windows place strain upon a structure as they are used. Doors in particular are weak points, as the opening and shutting of a door puts strain on the surrounding framing.

FIG. 6 shows that the stud 600 can include one or more grooves 106. The groove 106 can allow the stud 600 to be attached to a wall panel with integrated insulation, roof panel with integrated insulation, floor panel with integrated insulation or other adjoining member. For example, if the stud 600 is configured to attach to an interior wall panel, the stud 600 can be 4 inches by 1.5 inches or if the stud 600 is configured to attach to an exterior wall panel, the stud 600 can be 6 inches by 1.5 inches (2 inches if the stud 600 includes two grooves 106). One of skill in the art will appreciate that the stud 600 can include one or more tongues rather than one or more grooves, depending on the adjoining member. One of skill in the art will further appreciate that lumber dimensions are nominal dimensions and not actual dimensions (for example, a “2x4” post in lumber would be 1.5x3.5 in actual dimensions); however, the stud 600 must match the dimensions of the wall panel, or other adjoining member, in one direction and lumber size in the other so the size will be given in actual dimensions rather than nominal dimensions.

FIGS. 7A and 7B (collectively “FIG. 7”) illustrate a header 700. FIG. 7A illustrates a header 700 for an interior wall; and FIG. 7B illustrates a header 700 for an exterior wall. A header 700 is a support which is built in above a door or window. Classically, a door header 700 is about twice as thick as the surrounding framing, and it is supported by the king studs (such as the stud 600 of FIG. 6). Headers are important for structural integrity, and are required by law in many regional building codes.

FIG. 7 shows that the header 700 can include a body 702. The body 702 is configured to rest along the wall panel. I.e., the body 702 will be in direct contact with a wall panel. The body 702 can be attached to the wall panel using glue or any other desired attachment method, such as metal fasteners.

FIG. 7 also shows that the header 700 can include a trim 704. The trim 704 can include decorative molding. I.e., the trim 704 includes a decorative piece that can be viewed around the edges of the door or window. Additionally or alternatively, the trim 704 can be configured to allow a decorative piece to be attached. I.e., the trim 704 can act as the "base" or attachment point of a decorative piece to be added at the end of construction. One of skill in the art will appreciate that the trim 704 can be on either one or both sides of the window or door. I.e., the trim 704 may be present on one or both sides of the header.

The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claims rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

What is claimed is:

1. A structure with integrated insulation, the structure with integrated insulation comprising:
   a steel frame; the steel frame including:
   a first support beam; and
   a second support beam;
   an assembly with integrated insulation, wherein the assembly with integrated insulation:
   includes a first building panel with integrated insulation, the first building panel with integrated insulation:
   a first surface;
   a second surface, wherein the second surface is opposite the first surface;
   a first edge, wherein the first edge is disposed between the first surface and the second surface; and
   a second edge, wherein the second edge is disposed between the first surface and the second surface and is opposite the first edge;
   the first building panel with integrated insulation being attached to the first support beam on the first surface of the first building panel with integrated insulation, wherein the attachment between the first support beam and the first building panel with integrated insulation includes adhesive over the entirety of the web of the first support beam in contact with the first building panel with integrated insulation;
   includes a second building panel with integrated insulation, the second building panel with integrated insulation including:
   a first surface;
   a second surface, wherein the second surface is opposite the second surface;
   a second edge, wherein the second edge is disposed between the second surface and the second surface; and
   a second edge, wherein the second edge is disposed between the second surface and the second surface and is opposite the second edge;
   the second building panel with integrated insulation being attached to the second support beam on the second surface of the second building panel with integrated insulation, wherein the attachment between the second support beam and the second building panel with integrated insulation includes adhesive over the entirety of the web of the second support beam in contact with the second building panel with integrated insulation; and
   a panel connection configured to attach the first edge of the first building panel with integrated insulation to the second edge of the second building panel with integrated insulation.

2. The structure with integrated insulation of claim 1, wherein the first building panel with integrated insulation includes a wall panel with integrated insulation.

3. The structure with integrated insulation of claim 1, wherein the first building panel with integrated insulation includes a floor panel with integrated insulation.
4. The structure with integrated insulation of claim 1, wherein the first building panel with integrated insulation includes a roof panel with integrated insulation.

5. The structure with integrated insulation of claim 1, wherein the first support beam includes a T-beam.

6. The structure with integrated insulation of claim 1, wherein the first support beam includes an I-beam.

7. The structure with integrated insulation of claim 1, wherein the panel connection includes a tongue on the first edge of the first building panel.

8. The structure with integrated insulation of claim 7, wherein the panel connection includes a groove in the second building panel, wherein the groove is configured to receive the tongue.

9. The structure with integrated insulation of claim 7, wherein the tongue is trapezoidal.

10. The structure with integrated insulation of claim 7, wherein the tongue is semi-circular.

11. The structure with integrated insulation of claim 7, wherein the panel connection includes a second tongue on the first edge of the first building panel.

12. A structure with integrated insulation, the structure with integrated insulation comprising:
   a steel frame, the steel frame including:
   a first support beam;
   a second support beam; and
   a post;
   an assembly with integrated insulation, wherein the assembly with integrated insulation:
   includes a first building panel with integrated insulation, the first building panel with integrated insulation including:
   a first surface;
   a second surface, wherein the second surface is opposite the first surface;
   a first edge, wherein the first edge is disposed between the first surface and the second surface; and
   a second edge, wherein the second edge is disposed between the first surface and the second surface and is opposite the first edge;
   the first building panel with integrated insulation being attached to the first support beam on the first surface of the first building panel with integrated insulation, wherein the attachment between the first support beam and the first building panel with integrated insulation includes adhesive over the entirety of the web of the first support beam in contact with the first building panel with integrated insulation;
   includes a second building panel with integrated insulation, the second building panel with integrated insulation including:
   a first surface;
   a second surface, wherein the second surface is opposite the second surface;
   a second edge, wherein the second edge is disposed between the second surface and the second surface; and
   a second edge, wherein the second edge is disposed between the second surface and the second surface and is opposite the second edge;
   the second building panel with integrated insulation being attached to the second support beam on the second surface of the second building panel with integrated insulation, wherein the attachment between the second support beam and the second building panel with integrated insulation includes adhesive over the entirety of the web of the second support beam in contact with the second building panel with integrated insulation; and
   a first panel connection configured to attach the first edge of the first building panel with integrated insulation to the second edge of the second building panel with integrated insulation; and
   a second panel connection, the second panel connection configured to attach the second edge of the second building panel with integrated insulation to the post.

13. The structure with integrated insulation of claim 12 further comprising an adhesive, wherein the adhesive covers the entirety of the first edge of the first building panel and the second edge of the second building panel.

14. The structure with integrated insulation of claim 13, wherein the adhesive covers the entirety of the second edge of the second building panel and the edge of the post attached to the second edge of the second building panel.

15. The structure with integrated insulation of claim 12, wherein the post is approximately 4 inches wide by 4 inches thick.

16. The structure with integrated insulation of claim 12, wherein the second panel connection includes a tongue on the second edge of the second building panel and a groove in the post, wherein the groove is configured to receive the tongue.

17. The structure with integrated insulation of claim 16, wherein the post includes a second groove.

18. A structure with integrated insulation, the structure with integrated insulation comprising:
   a steel frame, the steel frame including:
   a first support beam;
   a second support beam; and
   a stud;
   an assembly with integrated insulation, wherein the assembly with integrated insulation:
   includes a first building panel with integrated insulation, the first building panel with integrated insulation including:
   a first surface;
   a second surface, wherein the second surface is opposite the first surface;
   a first edge, wherein the first edge is disposed between the first surface and the second surface; and
   a second edge, wherein the second edge is disposed between the first surface and the second surface and is opposite the first edge;
   the first building panel with integrated insulation being attached to the first support beam on the first surface of the first building panel with integrated insulation, wherein the attachment between the first support beam and the first building panel with integrated insulation includes adhesive over the entirety of the web of the first support beam in contact with the first building panel with integrated insulation;
   includes a second building panel with integrated insulation, the second building panel with integrated insulation including:
   a first surface;
   a second surface, wherein the second surface is opposite the second surface;
   a second edge, wherein the second edge is disposed between the second surface and the second surface; and
   a second edge, wherein the second edge is disposed between the second surface and the second surface and is opposite the second edge;
   the second building panel with integrated insulation being attached to the second support beam on the second surface of the second building panel with integrated insulation; the stud being attached to an edge of the opening;
includes a second building panel with integrated insulation, the second building panel with integrated insulation including:
a first surface;
a second surface, wherein the second surface is opposite the second surface;
a second edge, wherein the second edge is disposed between the second surface and the second surface; and
a second edge, wherein the second edge is disposed between the second surface and the second surface and is opposite the second edge;
the second building panel with integrated insulation being attached to the second support beam on the second surface of the second building panel with integrated insulation, wherein the attachment between the second support beam and the second building panel with integrated insulation includes adhesive over the entirety of the web of the second support beam in contact with the second building panel with integrated insulation; and
a first panel connection configured to attach the first edge of the first building panel with integrated insulation to the second edge of the second building panel with integrated insulation; and
a second panel connection, the second panel connection configured to attach the second edge of the second building panel with integrated insulation to the post.
19. The structure with integrated insulation of claim 18, wherein the opening is configured to receive at least a portion of a door.
20. The structure with integrated insulation of claim 18 further comprising:
a header, the header attached to a second edge of the opening.
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