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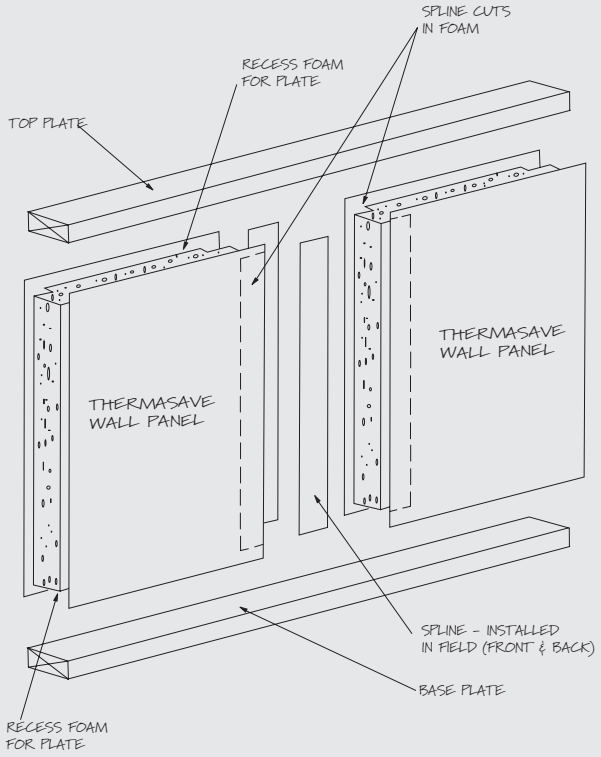
ThermaSAVE Technical Specifications

Panel Assembly

Interconnecting splines are typical of panel-to-panel attachment. Splines are 4-inch wide strips running the full length (or height) of panels, parallel to, and at both the interior and exterior faces. At panel joints, the splines are shared by adjacent panels with each panel edge accepting half of the common splines. Panels are manufactured with the expanded polystyrene (EPS) foam core recessed by the thickness of the spline. Splines are typically the same thickness as the panel skins which they attach. The thickness of the panels is determined prior to construction according to loads and thermal needs.

Adhesives are generally not required; sealants of various types may be applied consistent with good workmanship. Any sealants or adhesives need to be compatible with the materials to which they are applied.

Panels are aligned properly, are level and plumb, sealed and fastened within specified tolerances. The panels are then fastened through the skins into the interconnecting splines. It is not necessary that the splines be single pieces the full length or height of the panel. It is acceptable to use two or more splines to complete the length required.

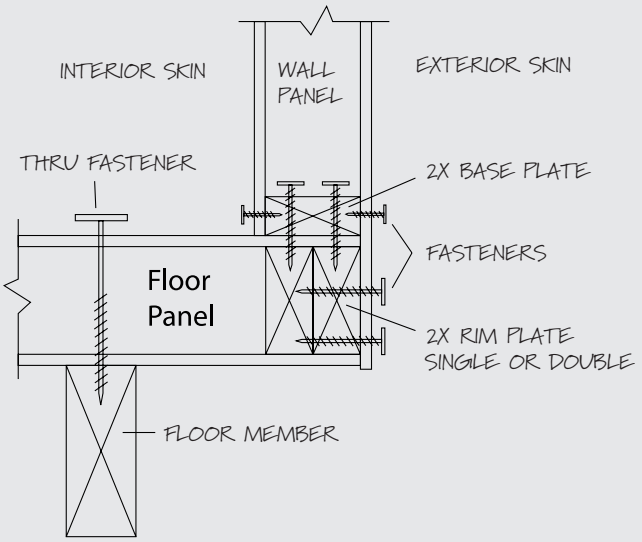


Floor Panels

Floor panels are aligned and fastened to supports below, and typically through-fastened to their support system and interconnecting splines attach one to another. Splines are only required on one side of the panels.

At the floor perimeter, 2X dimensional lumber is installed according to the thickness of the panel. The thickness of the panel is typically the same as dimensional lumber widths for compatibility. The floor panels are manufactured to accept these dimensional lumber members by recessing the EPS foam core to the depth required.

Perimeter rim boards are installed and fastened flush to floor edges, resulting in proper surfaces for other work and materials. No joints are in perimeter rim boards within six (6) feet of corners in either direction or within one (1) foot of panel joints in either direction. Adjacent panel edges are flush, level and flat to create cohesive surfaces.



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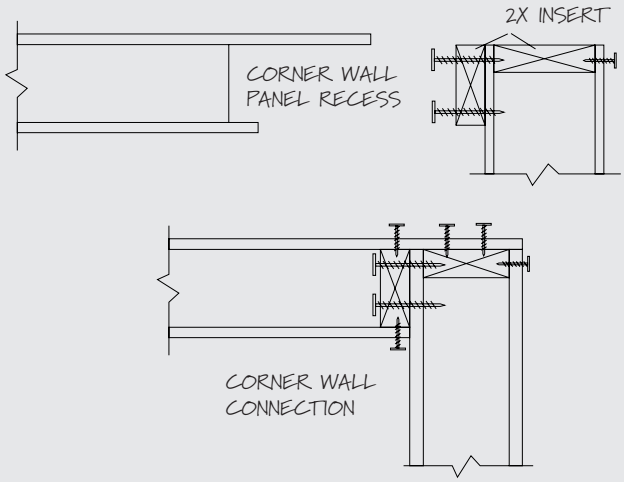
Wall Panels

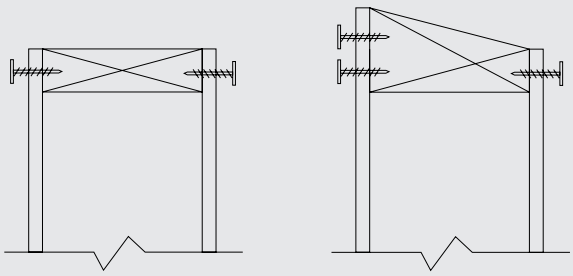
With the floor system completed, a wall base plate is attached to the floor perimeter fastening into floor panels and floor rim boards. The wall panels are manufactured with the exterior skin longer at the bottom so as to lap over the depth of the floor construction. The lapping skin fastened into the floor rim boards provide additional wall shear strength and hold down. In minimum load areas, the wall panels can also be manufactured with the interior and exterior skins the same length. In installation of these panels, both skins would be set on top of the floor over the base plate. The wall base plate must be attached to the floor so that the outside edge of the plate is flush with the outside vertical edge of the floor construction. Fastening the base plate, typically nailing where dimensional lumber exists and screwing into panel skins. The EPS core of the wall panel is recessed at the bottom to accept the wall base plate. This allows the wall panel to rest fully over the base plate and fasten through both interior and exterior skins into the plate.

Wall panels are attached one to the other using the spline connection. Wall panel corners are cut where one corner panel is cut back to accept the other. Only the interior skin of the corner panel is cut back, the exterior skin laps past the full depth of the other corner panel. The dimension of the corner cut is determined by the actual thickness of the panels. Corner boards are fastened onto the panel which has been cut back and provides the method by which the other corner panel is attached. The EPS is cut back appropriately to accept these corner boards.

The wall corner boards shall run the full height of the wall panels less the combined depth dimensions of the base and top plates. It may be described that the corner boards are the same length as the EPS of the corner panels in which they terminate, with the wall panel's EPS cut to accept both the base and top plates. A corner board should be bevel cut at the top to match the pitch of a gable wall panel existing at a corner.

Wall top plates are installed after the walls are erected. 2X dimensional lumber is used for wall top plates and sit flat on the wall panels. The EPS is recessed to receive the top plates. Eve walls accept pitched roof panels and beveled top plates according to the thickness of the wall panels.





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When weight bearing members from above must be supported by a post, it is appropriate to place posts within wall panels. The EPS is cut back to accept the dimension of the post. Generally, if the post is to be placed at a panel joint, each panel accepts half the post. When adjacent panels are attached to a common post, this will substitute for a spline connection.

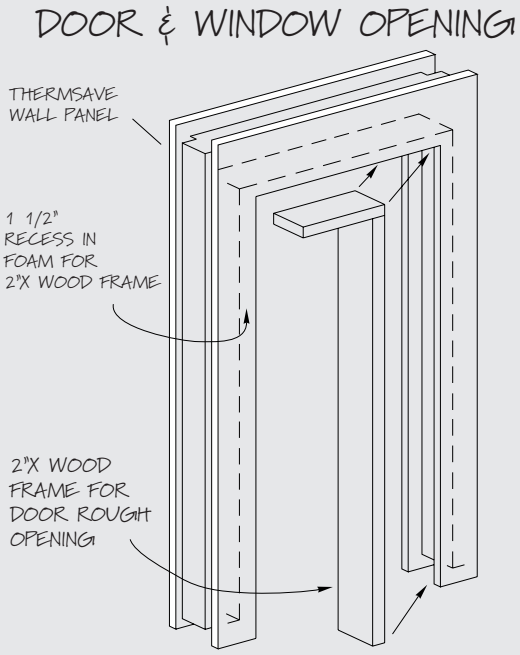
Panel Openings

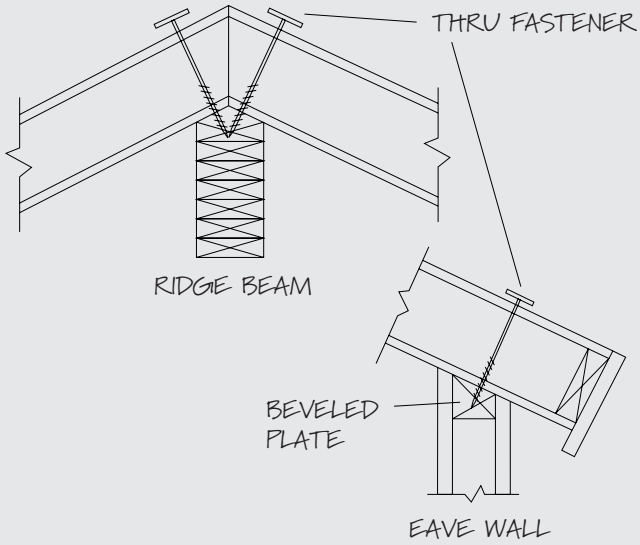
Window and door openings in walls are cut according to the project plans. Panel openings are prepared by cutting through the full thickness of the panel. With the panel section removed, the EPS is recessed from the opening cut to accept a dimensional lumber wrap. 2X material is typical of sills and jambs, 4X or larger material may be required at the header depending on the width and location of the opening. The dimensional lumber faces align with cut panel skins. It is acceptable for an opening to span through a spline connection though it should not begin or end within six inches of a panel joint with a spline connection.

An opening may exist immediately next to a post within the wall with the jamb nailed directly to the post, providing the header proper support.

Roof Panels

All wall top plates are installed and fastened. Eave bevel plates match the roof pitch. The spline connection is typical for roof panels. Where roof panels span from a beam or load bearing wall, they are through-fastened into that member and to the wall top plate. Roof panels may be manufactured at an approximate length to extend beyond the exterior walls creating a roof overhang of a specified dimension. Just as the floor panel system, the roof panel system shall have a rim board installed at the full perimeter, with the EPS cut to receive the 2X material. This 2X dimensional lumber will act as the sub-fascia to which a final fascia will be attached. Roof panel cuts may include: plumb cuts at ridges, where two opposing roof lines may meet flush, plumb roof overhang cuts at eaves, prow cuts, skylight openings, and others.





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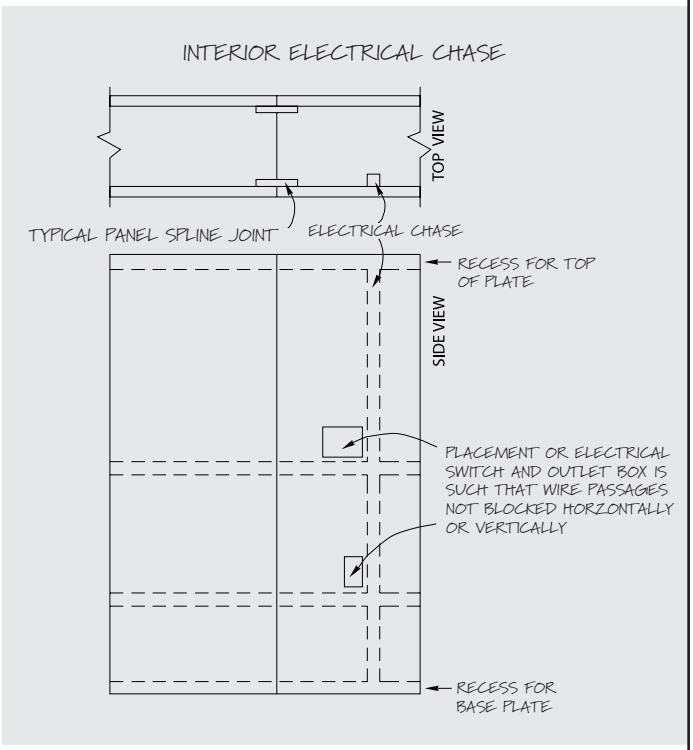
Electrical and Mechanical Installation

Wall panels are typically manufactured with electrical chases, 1 inch sq. voids, running the full height of the panel at 4 feet on center. Also, chases run the full width of the panels at electrical outlet and switch height, approximately 12 inches and 44 inches from the floor. The horizontal chases allow wiring to run as needed continuously at the wall's interior perimeter. This electrical chase grid may be accessed as necessary where electrical service is required. A hole of appropriate size is cut into the interior skin at the desired location and immediately adjacent to an electrical chase. An electrical service box is mounted in this cut out and is positioned so as not to impede other wiring which may pass through the same electrical chase. Floor and roof panels may also receive electrical chases as specified in the project plans.



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