

## C.21 INTERIOR AND EXTERIOR ATTACHMENTS AND FINISHES

Once your PolySteel walls are in place, and the plumbing and utilities are properly installed, you are ready to attach or apply the finish of your choice to the interior and exterior of your project. The steel attachment studs that are an integral part of each PolySteel Form are the primary anchors you use to attach all types of wall surfaces. The studs are recessed 1/2" below the surface of the form and are marked every 6" on center with a line indicating the outside edges of the stud. Self-tapping, coarse-threaded, or drywall screws are the typical method for achieving a secure mechanical attachment to the wall.

The high-density expanded polystyrene (EPS) insulation provides a solid, uniform, and uninterrupted, attachment surface for supporting your chosen finish, in addition to providing a moisture and vapor barrier for your above-grade walls. The EPS is highly compatible with foam adhesives which can provide a very secure attachment to the walls in a variety of applications.

### C.21.1 INTERIOR ATTACHMENTS AND FINISHES.

All building codes require foam plastic insulation to be covered by a 15-minute thermal (fire) barrier on the interior face of the wall. The typical method for meeting this requirement is the application of 1/2" drywall to the interior walls.

*Note: Please refer to PolySteel's code evaluation reports for how this requirement may not apply to crawl spaces constructed with PolySteel.*

#### C. 21.1.a DRYWALL AND OTHER SHEET MATERIALS.

Drywall, paneling, or other sheet materials can be easily attached to your PolySteel walls with common drywall screws. You may also use a foam adhesive (e.g., Foam2Foam) to attach these materials to the wall, which may reduce the frequency and number of screws necessary for a secure attachment, as long as you comply with local building codes.

The uninterrupted attachment surface means that there are no cavities in a PolySteel wall. That means that you may join drywall, or other sheet materials, at any location along the surface without regard to the location of the attachment studs. You may simply screw the material to the closest attachment stud and butt sheets together wherever they naturally meet. If a joint or seam extends more than 4" from an attachment stud, you may want to secure the extended material to the wall with a foam adhesive. This convenient feature minimizes waste and saves valuable installation time.

## C.21 INTERIOR AND EXTERIOR ATTACHMENTS AND FINISHES

### C.21.1 INTERIOR ATTACHMENTS AND FINISHES (continued)

#### C. 21.1.b CABINETS AND OTHER HEAVY OBJECTS.

The PolySteel attachment stud is capable of carrying the load required for kitchen or bathroom cabinets. Locate the stud pattern in the cabinet mounting area and screw the cabinet to the wall every 12 inches in both directions with a screw designed to carry the load, as the cabinet manufacturer recommends.

- ✓ **Option 1.** A common practice is to cover the cabinet mounting area with 1/2" AC plywood instead of 1/2" drywall. Attach the plywood with two self-tapping screws into each PolySteel attachment stud. The cabinets can then be mounted to the plywood using wood screws or deck screws.
- ✓ **Option 2.** Before the installation of the drywall install sheets of 24 to 26-gauge galvanized sheet metal using self-tapping screws (two per attachment stud). Attach drywall to the attachments studs as instructed. The cabinets can then be mounted in place using self-tapping sheet-metal or deck screws with sufficient length to penetrate a minimum of 1/2" beyond the sheet metal behind the drywall.

#### C. 21.1.c BASEBOARD INSTALLATION.

Baseboard materials can be attached directly through the drywall to the attachment studs with Ring Shank finishing nails, glued to the wall with a foam adhesive, or nailed to the wall with a power-nailer and finishing nails set at cross angles into the trim work.

- ✓ **Option 1.** Mount a "Grappler®" (see Section B 7.11) into the foam at baseboard level every 4 feet, before installing drywall. Baseboard material can then be nailed through the drywall into the Grappler expanded metal material to secure to the wall.

#### C. 21.1.d CURTAIN RODS, TOWEL RACKS, ETC.

Typical drywall anchors are sufficient to hang most wall trim, accessories, pictures, etc., however for areas requiring heavy loads, or those susceptible to future remodeling or redecorating, it is a good idea to attach directly to the steel attachment studs or reinforce the drywall with a Grappler expanded metal support.

## C.21 INTERIOR AND EXTERIOR ATTACHMENTS AND FINISHES

### C.21.2 EXTERIOR ATTACHMENTS AND FINISHES.

There is virtually no limit to the types of finishes that can be applied to a PolySteel wall, giving you unlimited flexibility in how you want your project to look. The forms and recessed steel attachment studs every 6" on center provide the same uniform, secure surface to which you can attach any finish you desire.

#### C. 21.2.a STUCCO and TEXTURED ACRYLIC SURFACING SYSTEMS (TASS).

PolySteel provides the ideal substrate for both traditional and synthetic stucco systems. The EPS foam bonds extremely well with both systems and eliminates the need for any type of additional moisture or vapor barrier material. The lath, for traditional stucco can be screwed directly to the recessed PolySteel attachment studs. TASSs can be applied directly to the form in accordance with the manufacturer's specifications. The studs are recessed 1/2" below the surface to provide a uniform and stable surface for whatever material is chosen. Be sure to follow the manufacturer's instructions in all cases, with the understanding that there is no requirement for an additional underlayment or moisture barrier before applying the finishing system.

- ✓ Be sure to seal around all windows and doors with a self adhesive barrier membrane to bridge across the buck material and PolySteel.
- ✓ PolySteel Forms exposed to the sun's ultraviolet rays for an extended period of time may "oxidize", or turn yellow, and a powdery dust may appear on the surface of the wall. This does not affect the performance of the wall, or the insulation, however, it can interfere with the achievement of a solid bond with some wall finishes. This is typical of all expanded polystyrene. Be sure to clean this oxidation residue from the wall before applying any material that needs to bond with the foam.



SCREW LATH TO  
ATTACHMENT STUDS



NO ADDITIONAL  
MOISTURE BARRIERS REQUIRED

## C.21 INTERIOR AND EXTERIOR ATTACHMENTS AND FINISHES

### C.21.2 EXTERIOR ATTACHMENTS AND FINISHES (continued).

#### C. 21.2.b SIDING.

The steel attachment studs in your PolySteel wall allow you to attach any type of siding available. This includes wood, vinyl, steel, log, shingle, composite, and fiber cement materials. In fact, many fiber cement companies prefer the steel attachment studs in PolySteel because of its strength and stability.

The PolySteel attachment studs have a 3-inch gap in between the forms. Consequently, it is important to layout the installation pattern of the siding you have selected so that you have a solid surface to attach to. Snap a chalk line to reflect this pattern for future reference. Attach siding directly to the attachment studs with galvanized steel sheet metal screws, or the screws recommended by the siding manufacturer.

In the event that one of the attachment levels falls in between the attachment studs, you can bridge the gap with 24-gauge galvanized strips of steel attached to the studs above and below the attachment point at the intervals required for the siding (generally every 24 inches). You may also pre-install a Grapppler, or perforated metal clip, with a nail that completely penetrates the foam prior to placing concrete, so that you have a secure anchor back to the concrete at this point.

***Note:** Some sidings require an air gap in between the siding material and the wall. In this case, you may attach 1x2 wood furring strips to the PolySteel attachment studs at the required intervals and use standard methods to attach the siding to these wood strips.*



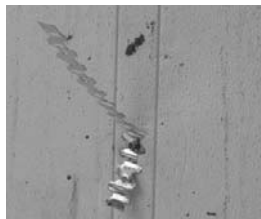
EXTERIOR SIDING

#### C. 21.2.c BRICK, STONE AND MASONRY.

These types of veneers are generally placed on a brick ledge (See Section D.12) and standard brick ties are attached directly to the PolySteel attachment studs at required intervals with galvanized screws. The brick ties secure the mortar and the masonry-type veneer to the PolySteel wall in the same way as all other wall types.



BRICK VENEER



BRICK TIE



STONE VENEER WITH TIES