

C.24 BASEMENT WALLS

PolySteel creates the ideal super-insulated, moisture-resistant wall so important in a basement structure. The installation procedures for a basement wall are virtually identical to those for any PolySteel wall. However, because of the additional loads and forces placed on a basement wall, and the potential for water intrusion below grade, it is important to follow the steps below in order to construct a PolySteel basement that will meet the requirements of the code, the performance potential of the wall system, and your own expectations. [Figure 3.26](#) below illustrates the key structural, waterproofing, and drainage components of a properly-installed PolySteel basement wall.

C.24.1 REINFORCEMENT.

Basement walls must be reinforced according to the loads they are expected to support, the quality and level of unbalanced backfill placed against the wall, the seismic zone you are working in, and the size form you are using. Refer to Basement Wall Tables in the Design Section of the Manual for the reinforcement required for your building.

C.24.2 WATERPROOFING.

Basement walls must be sealed to prevent water intrusion. The PolySteel wall system is not considered or designed to be waterproof by itself. There are a variety of systems and methods available to protect PolySteel basement walls, however it is important to use products that are compatible with expanded polystyrene, and avoid any and all products that contain a high concentration of hydrocarbon solvents or mineral spirits, as these may damage the foam plastic in the form. We recommend that you first test the coating you want to use on a small area of a form. If you see significant shrinkage or deterioration of the foam, it is not compatible and should not be used. Refer to the Basement Waterproofing Guidelines in Section C.24.5 and [Figure 3.26](#) below for more details.

- ✓ In poorer soil conditions, a drainage mat is sometimes recommended for use in conjunction with a waterproofing sealant to help alleviate the hydrostatic pressure that might otherwise be applied to wall.
- ✓ We have listed the waterproofing products we recommend in Section B.7 of the Manual.

C.24.3 DRAINAGE.

Install a proper drainage system around the perimeter of the basement footing as required by local codes.

C.24.4 BACKFILL.

The basement floor must be poured and the first floor set in place at the top of the basement wall prior to backfilling. In addition, **the concrete should cure a minimum of 7 days prior to backfilling.** The backfill material should be well drained and free of construction debris and large rocks. Once in place, backfill should be properly compacted and graded so that water does not collect around the basement walls.

C.24 BASEMENT WALLS (continued)

C.24.5 BASEMENT WATERPROOFING GUIDELINES.

Refer to Figure 3.26 and complete the following steps.

Step 1:

Install a proper drainage system around the basement footing as required by local codes.

Step 2:

Clean off the top of the concrete footing and the area where the wall meets the footing. Clean the entire area of the PolySteel wall below grade and remove any oxide that may have formed from the sun's ultraviolet rays.

Step 3:

Following the manufacturer's instructions, seal the entire wall below grade. Be certain that you achieve a complete seal at the bottom joint where the PolySteel wall meets the footing and extend the sealant to the edge of the footing. If you are using an applied coating, be certain that all of the joints between the PolySteel Forms are properly sealed.

Step 4:

Backfill the basement wall with soil that is free of construction debris and large rocks. We recommend that you protect the basement sealant from damage that can occur during backfilling by covering the entire surface with a below-grade drainage mat, or other protective material. **Backfill only after the concrete has cured 7 days, the basement floor is poured and the first floor is in place at the top of the wall.** Backfill should be properly compacted and graded so that water does not collect around the basement walls.

C.24 BASEMENT WALLS (continued)

FIGURE 3.26 BASEMENT DETAIL

