Chapter 14. Wall Sheetrock

Tools needed by volunteers:

Nail apron
Tape measure
Utility knife
Pencil

Materials needed:

½" Sheetrock
½" Moisture/mold resistance rated sheetrock
1¼" Sheetrock screws
2" or 2½" Sheetrock screws
½" Scrap foamboard, 1±¼" wide
Air sealing tape
Painter's tape
Shims: Wood Shim/Felt paper

Tools and equipment needed:

Extension cord
6' Level
Lighting
Driver/Screw gun
Sheetrock bit (dimpler bit)
RotoZip Spiral Saw
2½" Holesaw
2' and 4' Sheetrock T-square
Sheetrock rasp
Sheetrock hand saw
Foot lifter
Step ladder/stool
Putty or drywall knife
Ratcheting T-driver
Black felt-tipped pen
Red marking crayon
Shop-vac

Personal Protection Equipment:

Safety glasses (required)
Dust mask (recommended)

Safety First! Review the Safety Checklist before performing tasks in this chapter.

14.1. PREPARATION

1. Reserve the light green or blue moisture/mold resistant sheetrock for installation on the three walls above bathroom tub/shower stalls. Verify that it is in the house and, using a pencil, mark it "Save for Bathroom" or place it in the bathroom.

2. Verify that all stud centers have been marked on the floor with red crayon and mark any missing stud center references.

3. Verify that all electrical boxes, HVAC ducts, and protruding pipe locations have been marked on the floor. Mark any that are missing (see Section 12.2.2 for marking instructions).

4. Verify that all walls have blocking where required. Install blocking where missing (see "Blocking for Sheetrock", Section 10.5.5).

5. Using a 6' level on the face of the Jack stud, verify the King/Jack studs on all sliding closet door frames are straight and plumb within 1/16". If bowed, add paper or tapered wood shims until straight and plumb. This will ensure that the sliding door will contact the wall surface evenly when closed.

6. Verify that the poly vapor barrier in the corners is not bunched up. Poly should be neatly tucked into corners to allow sheetrock to fit squarely into corners. Refold and re-staple if necessary and tape any holes that develop with air sealing tape. Also, verify that all taped areas will not prevent sheetrock from fitting tight to the studs. Re-cut and re-tape any problem areas.

7. Verify that the doorbell chime and thermostat wires are not covered with insulation or vapor barrier, and that the bathroom vanity light wire is either hanging outside the vapor barrier or connected to an electrical box. If these wires are not visible, locate and uncover them before installing the sheetrock.

8. Verify that cold air return boots don't extend more than ½" beyond the face of the wall studs. Use a piece of drywall or 2x long enough to span adjacent studs and try sliding it down past the boot. If contact is made, manually push boot back to within ½". This ensures that covers fit tight to the wall after plastering.

9. Remove all residual spray foam and caulk from the face of all window frames. (Do not mar the painted frames.) Apply 2" painter's tape along the outside edge of the frame and continue around the entire frame perimeter. This protects the frame during plastering and painting.

10. Remove temporary stairway handrail prior to installing sheetrock in the stairway areas.

14.2. PLANNING

1. Develop an installation plan to maximize efficient use of people and material to minimize building costs.

2. Divide the task of installing sheetrock into two functions, with a separate team for each function. For example, one team conducts the measuring and cutting, and installs each sheet with enough staggered 1¼" drywall screws to secure the sheet to the wall. Another team pencil marks the stud centerlines using a 4' T-square, completes sheetrock securement, and conducts quality checks of all the screws (see Section 14.4.1.3 for quality check instructions).

3. Determine the best individual sheetrock lengths required to complete each row (see Section 14.4.1.1 and accompanying note).

   NOTE: Some sites will have wall areas pre-measured by a dedicated team who will cut and deliver sheets to all rooms for installation by the crews.

14.3. GENERAL INSTALLATION RULES

1. All sheetrock must be secured to at least three studs or two studs and end blocking (i.e., each sheet must have at least three rows of screws).

2. Each full width sheet must be fastened with seven screws on each end and five in the field. In addition, bottom sheets should be fastened to the bottom plate, two screws between each stud.

3. For each room, begin installation at the top of an interior wall corner, where it abuts an exterior wall. In situations where an exterior wall has no intersecting interior wall (e.g. an open kitchen/living room wall), start from the top of either exterior wall corner. Complete the entire top row before moving on to the bottom row.

4. Undercut the sheetrock by the following amounts relative to the actual measured dimension:

   - by ½" if the piece will span the entire distance between two walls (e.g. a closet or pantry).

   - by ¼" when butting tight to an adjacent sheetrock piece (as between a sheetrock on one end and a stud or intersecting wall on the other end).

5. Factory edges of sheetrock pieces should butt to factory edges of adjacent pieces wherever possible. Try to limit cut edges to inside and outside corners, filler pieces above doors and windows and the bottom row of basement sheetrock.

6. End joints on each successive row should be staggered a minimum of two and preferably three studs.

7. After cutting sheetrock, measure and record the length on the drop and set the drop aside. To maximize efficiency, always check the drop pile first before cutting from a longer sheet.

8. Holes for plumbing and HVAC ducts are typically pre-cut prior to installation and electrical boxes are RotoZipped after installation (see Section 14.4.1.7 for cold air returns, Section 14.4.1.8 for switch boxes, and Section 14.4.1.10 for receptacle boxes). A 2½" hole saw or a sheetrock hand saw can be used for cutting the opening for the sink drain.

9. When sheetrocking the upper row, completely cover the upper portion of doors and windows with sheetrock. Preferably use a single sheet to cover, but if two pieces are used the seam should be at least 6" inside the widow/door framing.

10. Sheetrock pieces above doors or windows with headers do not need to seam on a stud, as headers and top plates provide sufficient support.

11. To install an upper row of sheetrock above windows and doors, screw the sheetrock in place. Remove the excess sheetrock inside the door/window frame by first cutting the top with a saw and then using a utility knife to score the long side flush along the framing. Snap and cut to remove.

12. Keep sheetrock ½" – ¾" away from the outside edge of exterior door jambs. This helps facilitate door trim installation.

13. When attaching narrow strips of sheetrock (e.g., ends of walls, inside face of sliding closet doors, 4 x 4 posts, window frames, etc.), use two screws at each end, and fill in between with two staggered rows, every 12"-16".

14. All exposed wall foamboard in the entire house must be covered by sheetrock, per Building Code. Pay particular attention to covering edges of foamboard in the basement. Sill box foam does not require a sheetrock cover.

15. Re-install the temporary stairway handrail as soon as the sheetrock has been installed in the stairway area.

14.4. INSTALLING WALL SHEETROCK

14.4.1. Walls

1. Measure the total length of the first wall selected for sheeting (see Section 14.3.3). Then, determine how many full-length sheets can be used to fill the measured length and the size required for the end pieces. The standard size for main floor wall sheetrock is 12' long; basement sheets are 8' long.

   NOTE: Every sheet must be attached to at least three studs or two studs and end blocking. All butt joints must be centered on a stud.

2. Position the piece tight to the ceiling rock and install enough staggered 1¼" sheetrock screws to secure it to the wall. Continue installation until all top row pieces are in place and fully secured, using the recommended approaches provided in Section 14.3.

3. Conduct the quality control checks listed below on **every screw.** When completed, mark "OK" on every sheet with a piece of sheetrock used as a chalk. Conducting quality checks as soon as each individual sheet is installed is preferred over waiting until a room is complete. This helps identify any bad habits or equipment problems early in the installation process and helps ensure that the quality checks are not rushed at the end of the work day.

   NOTE: Never write on sheetrock with crayons or felt tipped marking pens.

   a. Use a putty knife to make certain the head of each screw is recessed below the surface of the sheetrock (a slight dimple is best). Slide the putty knife along the sheetrock surface and move it over every screw. Listen for a "click". If the screwhead is exposed, tighten until recessed.

   b. If a screw "spins" during driving or seems loose during tightening, it is not secured to framing and must be removed and relocated.

   c. If the screwhead or dimpler bit has completely broken the exterior paper layer of the sheetrock, remove and relocate the screw.

   d. Check the screw count on each full width sheet to ensure there are seven screws on each end and five in the field. Add screws if the actual number is short of the desired count.

   e. Check to ensure that all narrow sheetrock strips are secured as stated in Section 14.3.13.

4. When installing the top row of sheetrock, install screws about 1½" down from the ceiling. There is 2½" of wood support for the top row of screws (below the ceiling sheetrock). Screw straight in, NOT at an upward angle.

5. There is sufficient blocking width at all inside corners, so install corner screws 1½" in from the corner. Screw straight in.

6. When the top row of sheetrock is secured and checked, install the bottom row of sheetrock using a pair of foot lifters to hold the sheet up snug to the upper sheet and fasten as in Section 14.3. For basement walls (including knee walls) sheetrock must be ½" off the concrete floor (or ledge for knee walls) to prevent moisture wicking. Place sheetrock scraps under the lower edge to provide proper spacing. Drive two screws into the bottom plate evenly spaced between each stud. This tightens the

connection of the sheetrock to the framing, improves air sealing and makes it easier to install base trim.

7. Before covering a cold air return, determine the distances from both sides as well as the top and bottom of the duct boot to adjacent sheetrock surfaces. Transfer these dimensions to the sheet to be cut and use a square to mark the lines for the cut-out. Cut the bottom first, then both sides with a hand saw. Scribe and snap off the top. As an alternative, the opening can be roto-zipped after installation, but it is more challenging. Take care to preserve the bottom section under the duct boot.

   NOTE: If the room opposite the return duct has not been sheetrocked, set the sheetrock in place and trace the perimeter of the duct on the back side of the sheetrock. This will simplify the process.

8. Before covering a wall switch, temporarily position the sheetrock where it will be installed and mark the right and left edge of the box on the sheet. Extend these marks down about 6". Measure from the bottom of the upper sheet to the bottom of the switch box and transfer this dimension to the bottom sheet. This is the height of the cut. Saw cut the left and right sides down to the measured height, then use a utility knife to score the bottom side and snap off the cut-out.

9. Before covering a receptacle, determine the approximate vertical and horizontal centers of the box and record the measurements on a scrap piece. (Receptacle mid-points are typically about 14 ½" off the floor; kitchen counter receptacles are about 44 ½" off the floor.) Install enough screws to secure the sheet. To prevent driving screws through the sheetrock, do NOT fasten within a 24" radius of the box until after the opening has been cut.

10. Use a RotoZip Spiral Saw to cut out all receptacles. Verify that the depth of the saw bit is ⅝"-¾". Locate the approximate midpoint of the receptacle (per the preceding step). Insert the saw bit about 3" to the left or right of the midpoint. Move the bit horizontally toward the center of the receptacle until resistance from the outside edge of the box is encountered. Then, proceed to move the bit counterclockwise around the outside perimeter of the box. Moving the saw in a counterclockwise direction helps hold the saw bit against the outside surface of the electrical box. Always stay outside the box to avoid cutting electrical wires.

    NOTE: It is important to keep the bit outside the box to prevent cutting the electrical wires. If a wire is cut, or insulation is damaged, report it to the Site Leader or Construction Supervisor.

11. **Do not bury doorbell chime or thermostat wires behind sheetrock**. Drill a ¼" hole in the sheetrock at the height the wire is attached to the stud and thread the wire through the hole.

12. If the bathroom vanity light wire is not running through an electrical box, leave it hanging at its attached height outside of the poly vapor barrier and sheet the wall.

The electrician will drill through the sheetrock and fish the wire out at the appropriate location for the vanity light.

13. On outside corners of walls, install a piece of sheetrock on the first wall so its corner side edge is flush with the outside edge of the corner stud. Score and snap (or saw-cut) this piece flush to the corner. (An acceptable tolerance is a maximum of ¼" short of the corner, but do not allow the piece to extend past the outside edge of the corner stud.) Form a recessed corner by installing the second sheetrock piece on the adjacent wall so its edge is flush with the other outside edge of the corner stud. The outside corner ends of the sheetrock should not overlap the corner (see Figure 14-1).

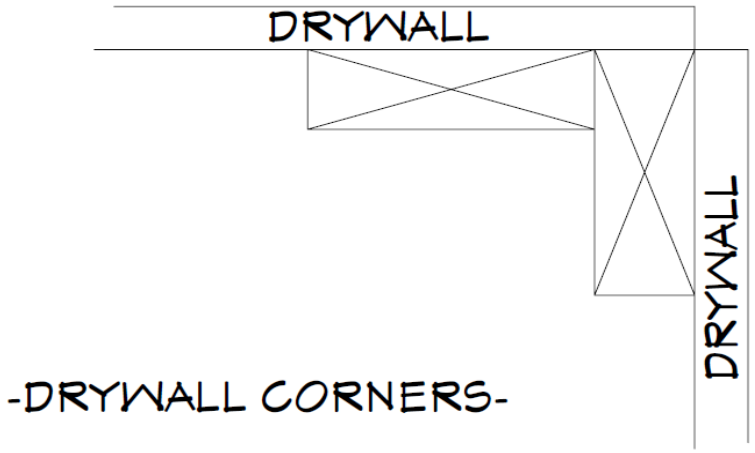

Figure 14-1. Outside Corner Installation of Sheetrock.

14. Cover the plenum for the range hood with sheetrock. The opening for the hood vent will be cut out during cabinet installation.

14.4.2. Window Sills and Walls Underneath Windows

1. Before sheetrocking window sills or installing the bottom row of sheetrock under main floor windows, determine if the sill was prepared with a sill pan or with flashing tape. If sill pans are present, the sills must have filler pieces installed. Two layers of filler pieces are required for each window - a ½" foamboard about 1" wide and a piece of sheetrock about 3" wide, each cut to the sill length. Cut the strip of foamboard into shorter lengths to fit between the shims and lay the pieces in the sill pan. Remove any residual caulk to ensure the foam filler lays flat. Place the 3" strip of sheetrock filler outside the sill pan lip, with the opposite end flush with the interior edge of the sill. Secure with two or three 1¼" sheetrock screws.

NOTE: Basement windows and windows set over flashing tape instead of sill pans do not require foam or sheetrock filler strips (see Step 3b below).

2. Install sheetrock on the wall under the window. If windows have sill pans, measure, cut and fit flush to the top of the sheetrock filler piece. For basement windows and windows without sill pans, cut and fit flush to the top of the sill.

   NOTE: Save this cut for finishing the window sill in Step 3 below.

3. After the bottom row of sheetrock under the windows has been installed, cut and install the four window frame pieces. Start with the sill and top piece, then finish with the side pieces.

   a. If sill pans are present, install the sill piece of sheetrock over the filler strips of foamboard and sheetrock installed in Step 1 above, flush with the interior edge of the sill. Fasten with 2" or 2½" sheetrock screws through the underlying 3" filler piece, keeping all screws at least 2" away from the inside of the window to avoid driving screws through the sill pan. Use 1¼" sheetrock screws to install the remaining strips of sheetrock to the top and sides of the window frame (see Section 14.3.13 for screw pattern instructions).

   b. For windows without sill pans and basement windows, cut a sheetrock piece to cover the sill. Install the piece directly to the sill, flush with the interior edge of the sill. Fasten with 1¼" sheetrock screws, keeping all screws 2" away from the inside of the window to avoid driving screws through the flashing tape (see Section 14.3.13 for screw pattern instructions).

4. Step back and review all window frame pieces for straightness (e.g., any noticeably high or low areas or bulges). If present, investigate the cause and adjust as necessary, using shims behind the sheetrock.

14.4.3. Shower Area

1. Install ½" moisture/mold resistant sheetrock on the three walls above the tub/shower stall. This special sheetrock is normally light green or blue and can be identified by its labeling.

2. Sheetrock at the tub/shower flange should butt to the exterior edge of the flange. **NEVER OVERLAP THE FLANGE.**

14.4.4. Basement Door Area

1. On the utility side of the basement door, install sheetrock above the door and on either side of the door to the width of at least one stud bay. This will allow finish trim to be installed around the door opening later.

14.5. FINISHING AND CLEANUP

1. Any leftover pieces of sheetrock (**no full sheets**) may be given to the homeowner if they want them. Lean these pieces up against a wall underneath the stairs, supported by a few short scraps of 2x material to keep them off the floor.

2. When installation is complete, clean floors by dragging push brooms to remove debris, but do not remove the dust. Leaving dust is desirable because it facilitates plaster spill removal from the subfloor after plastering.