

## Chapter 20 - Drywall

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## Things to Consider

- The drywall is heavy and will require several volunteers to move and install it.
- Ensure all electrical boxes, light fixtures, and detectors are marked on the floor prior to installing the drywall.

## Safety Issues

- Rules for Utility Knives
  1. Keep them sharp. Drywall will dull blades quickly. Change blades often.
  2. Keep them closed when not in use. Drywall dust will collect quickly in the knives making them difficult to close.
  3. Check area around you before cutting.
  4. Don't cut towards your hand.
  5. Wear dust masks and safety goggles when rasping drywall or using the Rotozip.

## Components

Drywall Stops Finishing	Hanging Ceilings Cleanup	Hanging Walls
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## Timing & Prerequisites

- The following city and AWARE insulation inspections must be passed before drywall can be hung:
  - AWARE Air Sealing Inspection
  - AWARE Insulation Inspection
  - City Insulation Inspection
  - Thermal Bypass Inspection
- The nail pattern of drywall attached to “fire-rated” walls must be inspected before it can be finished.
- For most houses, the drywall phase will be contracted out. The House/Project Lead will work with the Construction Superintendent to co-ordinate resourcing optional activities.

## Materials Needed

### Walls & Ceilings

Marking Paint  
 ½” Drywall  
 5/8” Type X Drywall  
 ½” Mold resistant Drywall (Baths)  
 1 ¼” Drywall Screws  
 1 5/8” Drywall Screws  
 N95 & N99 Dust Masks

<b>Phase Specific Tools Needed</b>
<ul style="list-style-type: none"><li>○ Drywall Lifts</li><li>○ Re-chargeable Drills with Dimpler Bits or Drywall Screw Gun</li><li>○ Retractable knives</li><li>○ Drywall Tees</li><li>○ Drywall Saws</li><li>○ Drywall Foot Lifts</li><li>○ Rasps</li><li>○ Roto-zip (Drywall Router)</li><li>○ Benches</li><li>○ Metal Putty Knife 2" Wide or More</li><li>○ Work Lights</li><li>○ Caulking Gun</li><li>○ Goggles</li></ul>

## Organizing Materials / Areas

### Critical Issues

- In some models of houses the drywall cannot be loaded into the basement via the basement stairs. A hole must be cut in the first floor sub-floor to lower the drywall.

### Safety Issues

- Dust masks & goggles must be worn when cutting drywall with a roto-zip.
- Dust masks should be worn when cutting drywall with a knife.

1. The drywall delivery company will stock drywall in several rooms of the house. The proper number of sheets for each floor should have been placed on that floor. Identify which sheets are 5/8" (for ceilings and fired-rated walls) and which are 1/2" thick (for non fired-rated walls).
2. If the basement cannot be stocked using the basement stairs, cut a hole in the floor to lower the drywall.
  - The hole must extend from the middle of a floor joist to the middle or the next floor joist.
  - The hole must be 4' long. Cut across the width of a sheet of OSB.
  - The hole must be covered with 3/4" OSB when not in use. Mark the OSB with the word "HOLE". (Use orange spray paint).
  - Fill the hole a 3/4" OSB after the drywall is stocked.
3. If the drywall is being installed by volunteers:
  - Setup a cutting area away from the installers. Keep this area clear of debris.

- The rooms and closets will get dark as the drywall is installed, lighting will be required. If extension cords are needed, ensure they are not laying across walkways.
- Setup several drywall benches for each crew. Keep them about 12” from and directly in front of the wall panel being installed or directly under the ceiling panel being installed.

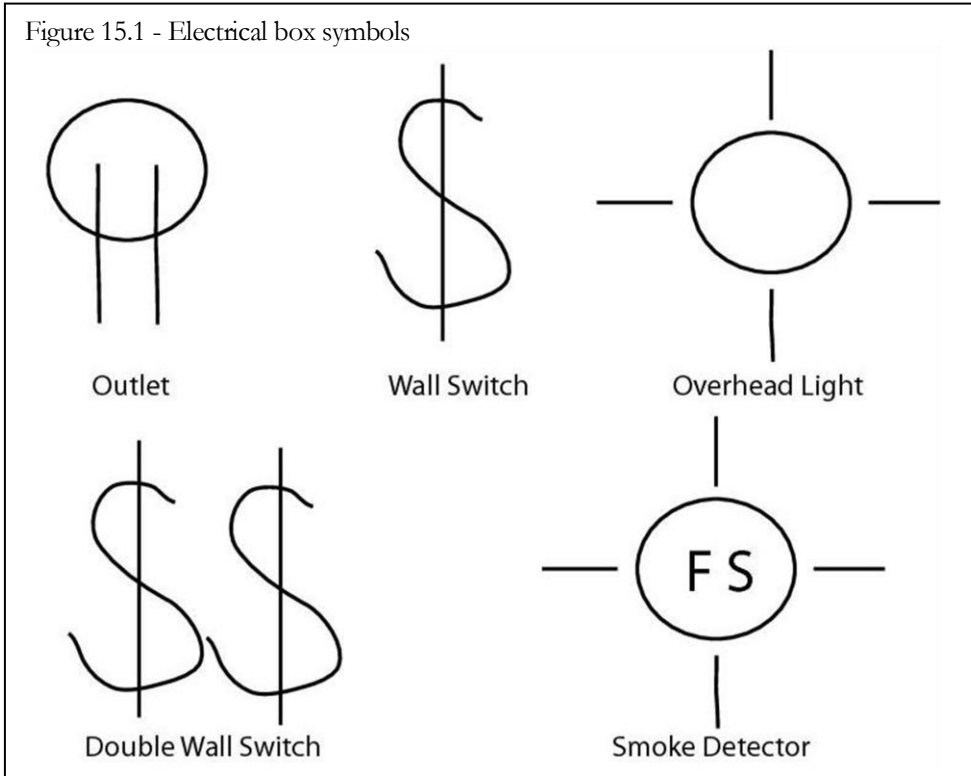
## Prepare for Drywall

### Mark the Interior Electrical Boxes (Volunteers)

Mark the location of these boxes before the drywall installation. (See Figure 15.1)

### Mark the Location of the Wall Studs (Volunteers)

Mark the location of the studs with marking paint, to assist with hanging the drywall. It is best to use a different color. **Do not spray paint on the steps.**



### Mark the Plumbing Pipes (Volunteers)

It is critical to know where the plumbing is when installing things like towel bars and shelving; therefore, it is important to mark the location of the plumbing before it is covered. On the floor next to the pipes, mark the location of the center of the plumbing pipes and what size they are.

After the drywall is painted and before the flooring is installed in the bathroom, transfer the marks in the bathrooms to the bottom of the walls using a Sharpie. The marks should be low enough to be covered by the base boards.

## **Storing Bath Fan Covers and Laundry Trim Ring**

To prevent the loss of the bath fan covers and the trim ring for the laundry shutoff connection box, store these items in a secure location such as the top of the basement shelving.

## **Remove Temporary Safety Lighting**

All cords and lights which pass through or are attached to the walls and ceilings must be removed and stored before the drywall contractors can begin. Free standing work lights can be used to light the main areas.

## **Remove Temporary Handrailing**

The temporary handrailing and blocking must be removed and stored before the drywall contractors can begin. Additionally, any temporary tables or work surfaces which are attached to the wall framing must be removed.

## **Remove Tools & Materials**

All rooms in which drywall will be installed must be cleared of tools and materials before the drywall contractors begin. After removing the tools and materials, sweep the floors to provide a clear area for the contractors to work.

# **Cutting and Hanging Drywall**

## **Installing Drywall Screws**

- Drywall screws must be installed perpendicular to the drywall; not at an angle.
- Drywall screws should be dimpled; but not deep enough to tear the paper. If the paper is torn, install additional screws.

## **Cutting Drywall**

- Using a drywall tee as a guide, score the sheet on the front, which is the side facing out. This side is usually white.
- Snap the section to be cut away from the cut side.
- Use a utility knife to score along the crease on its back side
- Snap the piece forward for a clean break.
- Clean up the cut edge with a dry wall rasp.

## **Moving Drywall**

- When carrying sheets a recommended method is to have 2 people; each 1 foot or more from an end-on the same side of the panel with the same hand under the panel.
- Allow the panel to lean against your shoulders.

## **Making Cut Outs in the Drywall**

- Goggles and a dust mask must be worn to keep the drywall dust and particles out of your eyes and mouth.

- After the drywall has been installed, use a roto-zip with a drywall cutting bit to make any cut-outs
- Insert the bit into the center of the area to be cut out.
- Cut to the edge of the box then “hop” the bit over the outside edge.
- Follow the outer edge in a counter-clockwise direction.

## **Apply Drywall in Living Areas**

### **Apply Drywall to Ceilings**

1. Start with the ceilings. The drywall should be in place on the ceiling over a wall before applying drywall to the wall.
2. Plan your work:
  - Use 5/8” drywall.
  - Drywall will be installed with its long edge perpendicular to the trusses or ceiling joists.
  - Stagger joints on adjoining rows on different trusses or joists by at least 24”.
  - Boards which run parallel to interior walls should be 48” wide, if possible.
  - Boards must span 2 or more trusses or joists.
3. Start in a room containing a minimal number of sheets stocked in it to minimize carrying of sheets.
4. If you will be using a drywall lift, set it up. You can install the ceilings with a lift or with 5 -6 volunteers and benches.
5. Determine measurements of ceiling area to be covered and cut a sheet to fit. Cut the sheet ½” smaller than the opening to be covered. Be sure to use 5/8” drywall to cover trusses.
6. Note any cut-outs that will be required for electric boxes, etc. and mark the location of any cut-outs on the drywall. Double check with the marks on the floor.
7. Mark the top plate where the trusses or joists cross over. These marks will be used to align the drywall screws.
8. Set the prepared drywall onto the lift with the outer side facing down.
9. Elevate the lift placing the panel into its correct location. Have several volunteers guide the panel to prevent it from getting caught and broken.
10. Attach the drywall to the truss using 1 5/8” drywall screws installed with a drill with a drywall Dimpler bit

- Screw the drywall screws every 12” across the width of the sheet into the trusses or ceiling joists. Note exceptions:
  - Don’t screw drywall to the trusses within 16” of an interior wall.
  - Do screw the drywall to the trusses along the exterior walls.
  - Areas within 12” of cut-outs will be screwed-in after the cut-outs are made.
- 11. Once enough screws have been installed to hold the sheet, remove the drywall lift.
- 12. Draw a pencil line using a tee to denote the locations of the trusses / joists.
- 13. Apply hand pressure to the sheet next to the fastener being driven to hold it tight to the truss.
- 14. Finish installing the drywall screws except within 12” of any cut outs.
- 15. Using a roto-zip make any cut-outs.
- 16. Screw in the remaining drywall screws into the sheet near cut-outs.
- 17. Succeeding sheets should be butted together.

### Apply Drywall to Walls

#### Critical Issues

- **Interior walls of any fire-rated wall assemble (walls which are within 3’ of the property line) require 5/8” Type-X fire rated drywall.**
- **The drywall on fire-rated walls must be attached with screws every 7” vertically up each stud.**
- **The drywall on fire-rated walls must be inspected after it has been hung and before finishing.**

1. Plan your work.
  - Use ½” drywall. Exceptions – The following require 5/8” Type-X drywall:
    - Fire-Rated wall assemblies
    - Adjoining walls in attached garages.
  - Begin installing the drywall with the sheets at the top of the wall.
  - The sheets will be applied horizontally.
  - Plan for drywall seams over or under windows and doors; they are less noticeable.
  - If the seams are not over or under windows and doors, stagger the top and bottom seams by at least 24”.
  - Install drywall on walls where the drywall will be supported by drywall stops before the adjoining walls.

- Install drywall to long interior walls of closets before the exterior walls. The drywall will not fit through the door.
2. Prepare sheets for top of wall.
  3. Lift the sheets into place. Lift the sheets until they are flush to the ceiling.
  4. Drywall over windows and doors and then cut them out.
  5. Screw into place using 1 ¼" drywall screws installed with a drywall Dimpler bit
    - Starting with the bottom edge, screw 1 screw in each end.
    - Screw 1 screw at the bottom edge into each of the middle studs.
    - Draw a pencil line using a tee to denote the locations of the studs.
    - Apply hand pressure to the sheet next to the fastener being driven to hold it tight to the stud.
    - Finish screwing the sheet to the studs with a screw every 12". The best sequence is top; middle; halfway between the top and middle; and halfway between the bottom and the middle.
    - Do not place any screws within 12" of any cut-outs.
  6. Make any cut-outs using a roto-zip.
  7. Insert screws around the cut-outs.
  8. Prepare lower sheets.
  9. Set the sheets in place and use a toe-lift to raise them into place. Set one at each end of the sheet to be lifted. Step on the foot lifter to elevate the sheet into position. It should be snug against the top sheet.
  10. Screw into place with 1 ¼" drywall screws installed with a drywall Dimpler bit. Marks on the floor and the screws in the top sheet will help locate the studs. Follow the same screw pattern as the top sheet.
  11. Make any cut outs as noted previously. Check for markings on the floor.
  12. Insert drywall screws near cut-outs

### **Apply Drywall on Inside Corners**

1. Boards being supported by drywall clips will not be screwed in the corner.
2. Do not angle screws. They will not recess into the drywall. If the screws do not recess, tap them in with a hammer.

### **Apply Drywall on Outside Corners**

1. Cut the board flush with the corner.
2. After the board is hung, use a rasp to ensure the edge is flush with the corner.



### **Apply Drywall at Windows and Doors**

Note: Do not apply drywall on the framing inside the door openings unless marked as a pass-through door. This is the area where the door jambs will be attached.

1. When preparing the upper sheets make a score that is even with the top of the windows or door on the inside of the sheet.
2. After installing the sheet – use the sides of the windows or door as a guide to cut up to the score. Use a roto zip or a drywall saw.
3. After cuts have been made on both sides, lift the panel to be removed. It will bend nicely at the score. Use a utility knife to trim along the crease the bend makes.
4. Snap the panel loose.
5. Clean-up the tear if needed with a light rasping.

### **Apply Drywall in Closet Areas**

1. Install the ceiling sheet first.
2. Short walls can be installed using vertical sheets to reduce cutting; to reduce finishing time; and better use of materials.
3. Refer to previous text for techniques.

### **Apply Drywall on Edges of Walkway Openings**

1. Cut ½” drywall to fit across the top and down the sides of the door frame.
2. Cover the top first then both sides; placing screws every 12” not too close to the edge.

### **Apply Drywall on the Window Frames**

1. Rip pieces of drywall to fit across the top of the window frame and down the sides.
2. Attach the drywall; placing screw every 12” in a zigzag pattern not too close to the edges.

### **Apply Drywall around Shower Area**

1. Mold resistant drywall must be used in the shower enclosures.

### **Prepare an Attic Access Cover**

1. Cut a piece of 5/8”, Type “X” fire-rated drywall to create the attic access door.
2. Trim the opening with 3” wide ½” drywall to support the attic access door.
3. Set the cover in place. The drywall contractor will stomp this at the same time as the ceiling.

## **Finish the Drywall (Contractor)**

The finishing of the drywall will be contracted out. Once all of the drywall is hung, the drywall contractor will take over. They will install the corner bead, mud and tape the joints, mud the nail holes, stomp the ceiling, and sand the walls.

### **Prepare for the Finishers**

1. Remove all full or half sheets of drywall from the house.
2. Throw any other cut pieces of drywall in the dumpster.
3. Sweep out the dust and trash
4. Perform the Quality assurance checklist with a special emphasis on:
  - Inspecting all joints to ensure they are secure.
  - Inspecting screws to ensure they are recessed.
  - Inspecting outside corners to ensure they are rasped smooth.

### **Cleanup after the Finishers (Volunteers)**

1. Using a utility knife, remove drywall mud from inside of outlet boxes. Be sure to cut around the inside edges of the box to prevent breaking the drywall joint outside the box.
2. Using a shop-vac with a drywall dust filter, vacuum all of the floors, window sills, outlet boxes, bathtub, and any other edges where dust has collected.

## **Quality Assurance Checklist**

- Run a metal putty knife over each screw head – they should be deep enough so that no “ting” sound is heard. Screws can be set deeper using a Phillips head screw driver. Any screws that missed the studs should be removed.
- Verify all outside corners have been rasped flush.
- Verify the paper was not broken.
- Verify any cut-outs were made. Match the holes to the marks on the floor.
- Verify all electrical outlets have been cut out.
- Are all of the drywall screws recessed
- Are all of the drywall sheets anchored tightly
- Are there any nail pops
- Are all of the seams and screw holes finished
- Are all of the electrical boxes cut out