CEILING SOLUTIONS

TOOLS NEEDED TO INSTALL CEILING

Tape Measure, Hammer, Tile Utility Knife, Tin Snips, Pencil, Lag Screwdriver.

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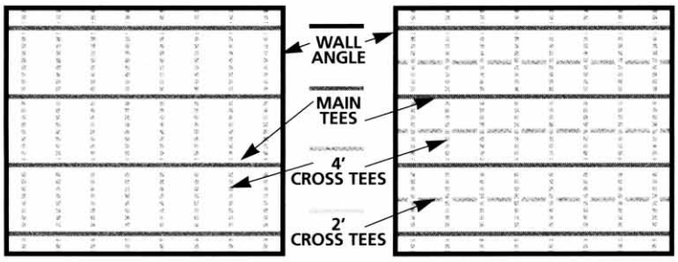
PLAN YOUR CEILING ON GRAPH PAPER BEFORE BEGINNING

Good planning is as important as careful installation. It not only tells you how much material will be required, but also eliminates time consuming errors. So be sure that before you begin installing your suspended Ceiling System that all planning is accurate and complete.

1. Start by measuring each wall in your room at the ceiling level. Include all irregular areas like bays, alcoves beams or stairwells. Write the measurements down.

2. Next, using a graph sheet, draw your room layout. Let each block represent 1 square foot. Show position of all light fixtures, air vents, columns, pipes and other obstructions.

3. Select a ceiling pattern. Shown here are the two types of patterns you can create in your ceiling. The basic 2′ x 4′ pattern is the easiest to plan and install, and is more economical.



2′ X 4′ PANEL LAYOUT
Main tees are spaced on 4′ centre with cross tees inserted 2′ apart to support 2′ x 4′ acoustical panels.

2′ X 2′ PANEL LAYOUT
2′ x 2′ patterns are created by bisecting the 2′ x 4′ modules with 2′ cross tees.

4. Now determine the room centreline and draw it on the graph sheet. The room centreline will run parallel with the long walls, and perpendicular to the ceiling joists.

5. Start 2′ from centreline to establish the first row of main tees and then 4′ thereon. Position the main tees in the drawing. Main tees run parallel to the room centreline and are spaced 4′ on centre. For example in a 10′ x 12′ installation, two 12′ main tee runs would be required, each placed 2′ from the centreline.

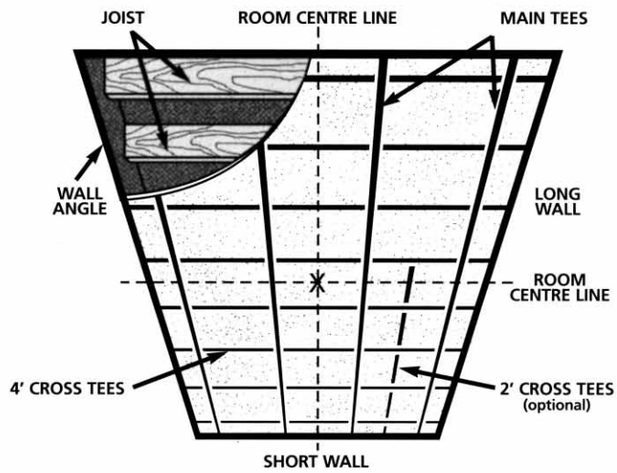
Note: Most room dimensions won't divide evenly into 4′ increments which means creating smaller panels at the borders. Plan so the borders are of equal size and as wide as possible. A rule of thumb is that the panels cut for the borders should not be less than half the standard panel size being used in your ceiling. Try to adjust your layout to accomplish this.

6. Finally, position the cross tees to complete the grid pattern. In a basic 2′ x 4′ ceiling, they run at right angles to the main tees on 2′ centres. Again, if the room is odd sized, allow for equal borders. If you position all main tees and cross tees on the graph before you begin the actual assembly, once you have assembled the main tees, you can start working from the border because this has already been determined on the graph.

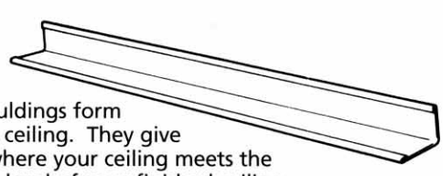
BUZZ WORDS

Some things have a language all their own. Here's a brief glossary of terms you'll encounter when you plan, buy and install your suspended ceiling.

The diagram of a typical 2′ x 4′ ceiling below installed in a room identifies the various terms used throughout the instructions.

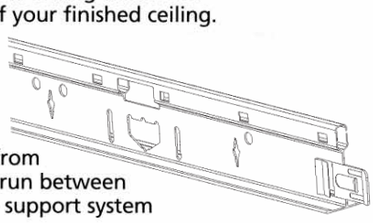


WALL ANGLE



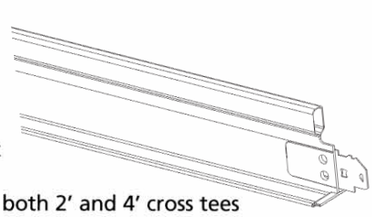
These "L" shaped mouldings form the perimeter of your ceiling. They give you a finished edge where your ceiling meets the wall and establish the level of your finished ceiling.

MAIN TEES



The metal framing members of your ceiling grid are called "tees". Main tees are hung from above by hanger wire. They run between the wall angles and form the support system for the ceiling.

CROSS TEES



They run perpendicular to and are snapped into the main tees to support the individual ceiling panels.

- 2′ x 2′ Panel layout requires both 2′ and 4′ cross tees
- 2′ x 4′ Panel layout does not require 2′ cross tees

MATERIAL ESTIMATING GUIDE

STEP 1 ROOM SIZE		8′x10′	8′x12′	8′x14′	10′x10′	10′x12′	10′x14′	10′x16′	12′x12′	12′x14′	12′x16′	12′x20′	14′x16′	14′x20′	14′x22′	14′x26′	16′x16′	16′x18′	16′x20′	16′x24′	16′x28′	18′x18′	18′x20′	18′x24′	18′x28′	18′x32′
STEP 2 & 3 2′ x 2′ LAYOUT	2′x 2′ Panels	20	24	28	25	30	35	40	36	42	48	60	56	70	77	91	64	72	80	96	112	81	90	108	126	144
	2′ Cross Tees	10	12	14	14	15	18	20	18	21	24	30	28	35	41	48	32	36	40	48	56	36	45	54	63	72
	4′ Cross Tees	8	10	12	10	13	15	18	15	18	21	27	25	32	35	42	28	32	36	44	52	36	41	50	59	68
STEP 2 & 3 2′ x 4′ LAYOUT	2′x 4′ Panels	12	12	16	15	18	21	24	18	24	24	30	28	40	44	52	32	40	40	48	56	45	50	60	70	80
	4′ Cross Tees	9	10	12	12	15	18	21	15	20	21	27	25	36	40	48	28	35	36	44	52	40	45	55	65	75
STEP 4	8′ Wall Angle OR 12′ Wall Angle	5 OR 3	5 OR 4	6 OR 4	5 OR 4	6 OR 4	6 OR 4	7 OR 5	6 OR 4	7 OR 5	7 OR 5	8 OR 6	8 OR 5	9 OR 6	9 OR 6	10 OR 7	8 OR 6	9 OR 6	9 OR 6	10 OR 7	11 OR 8	9 OR 6	10 OR 7	11 OR 7	12 OR 8	13 OR 9
STEP 5	8′ Main Tees OR 12′ Main Tees	2 OR 2	2 OR 2	2 OR 2	3 OR 2	3 OR 2	4 OR 3	4 OR 3	3 OR 2	5 OR 3	5 OR 3	6 OR 4	6 OR 4	8 OR 5	9 OR 6	11 OR 7	6 OR 4	8 OR 6	8 OR 7	10 OR 8	12 OR 9	9 OR 6	10 OR 7	12 OR 8	14 OR 10	16 OR 11

STEP BY STEP DIRECTIONS
for easy installation

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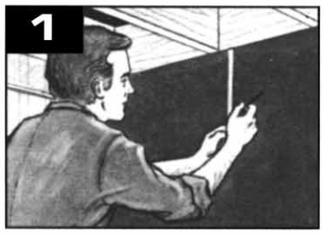
Once careful measurements and plans have been made, you are ready to begin ceiling installation. By following these instructions, work time will be minimized. Helpful hints for a professional looking job are provided.

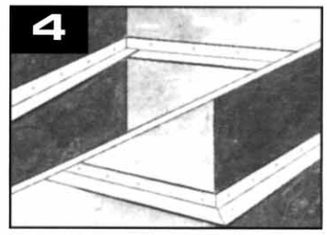


Determine new ceiling height. All obstructions such as pipes and ducts should be cleared by 3". Keep the new ceiling level above door frames and window openings.

Note: Flexible panels such as fibreglass can be installed with 1-1/2" clearance.

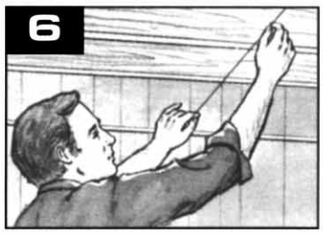
Mark the ceiling height at several points on each wall and snap a chalk line. Check for level. Do not take measurements from the floor.

Align the bottom of the angle moulding with the chalk line and nail it to the walls.

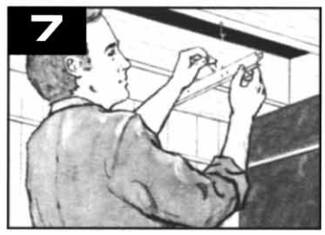


Angle moulding should overlap on inside corners. For outside corners, 45° mitre cuts and butting are required or use corner caps.

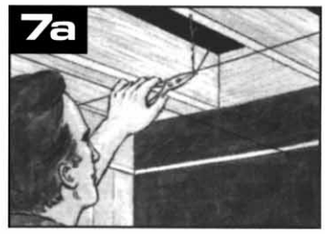
Position main tee assemblies by locating room centre line and referring to your drawing.



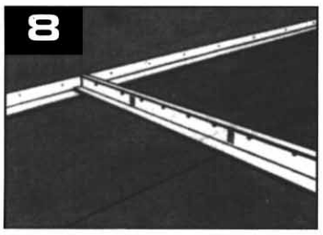
Insert a nail with a string attached under the wall angle at each main tee. Keep string taut and flush with bottom **horizontal** leg of wall moulding. Repeat procedure for first row of cross tees.



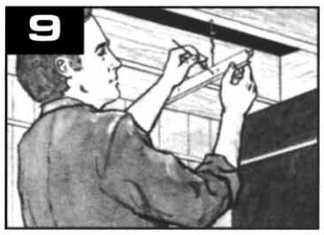
Insert top bulb section of main tee into the joist hanger strap. Bring the face of the main tee flush with the stringline and nail the joist hanger strap to the joist, 2 or more 6" straps can be interlocked as required.



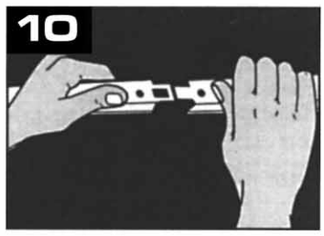
Option to joist hangers - use screw eyes and hanger wire.
Follow procedure outlined in Step 6. Drive screw eyes into joists at 4' intervals (maximum) along main tee string lines. Attach hanger wires to screw eyes leaving 6" length below string level. Bend wires 90° at 3/4" above the string level.



Initial main tees must be cut to length so that their cross tee slots line up with the cross tee strings nearest the starting wall. Cut the tee sections at the wall end.



Rest the trimmed end of main tee on wall angle moulding and insert hanger wire through nearest hole. Bend wire up. Check for level and then twist wire 3 or 4 times to secure. A hanger wire must be within first pilot hole where main tee assemblies are joined. Hanger wires should be spaced no further than 4 ft. apart.



Snap main tee sections together to form continuous run. Join tee sections end to end. Continue to check for level before twisting hanger wires. Repeat steps 8, 9 and 10 for each row of main tees.

Snap cross tees into main tees. Continue to check for level. Always insert cross tee into left hand side of slot for proper locking.

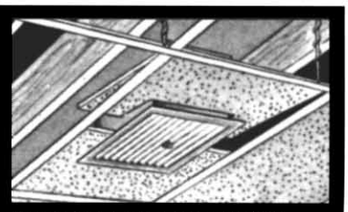
Install ceiling panels. Tilt panel through openings and drop them gently into position. It may be necessary to trim a panel to size in order to fit borders. Use a utility knife to cut square edge tile and cut through face. Use only CGC ceiling tiles for best results

Helpful hints.

For problem-free installations that look truly professional, acquaint yourself with these suggestions before starting the job.

CUTTING TEES AND MOULDINGS
Tin snips will provide the cleanest cut, but a fine tooth hacksaw can also be used. File off any burrs or sharp edges.

COLUMNS – Find the exact location of the column relative to the panel opening. Measure the size of the column and cut panel as shown.



HEATING AND AIR CONDITIONING VENTS – Extend duct to new ceiling level and attach grill. Cut hole in panel to dimension of duct sleeve and then cut panel in half as shown.

CUTTING PANELS – A sharp utility knife is a must. Use a straight edge or extra piece of tee section and cut the panel face down on a flat surface.

DUCTS AND SUPPORT BEAMS – Construct wooden latices for each side of the duct or support beam using 2" x 2" furring strips. Vertical supports should be on 16" or 24" centres. Nail 1" x 3" furring strips to ceiling joists on either side of duct or support beam. Attach the latices to the furring strips. Enclose the duct or support beam using finishing material such as wood panelling or drywall. Install the wall moulding at the desired level.

WINDOWS AND STAIRWELLS – In order to accommodate windows or stairwells which extend above ceiling level, build valances with 3/4" lumber. Fasten valances to wall and joists. Attach wall angles to the valance as you would to the walls.