

# Component Quantity Calculations

<b>Wall Bracket</b>	Divide the perimeter of the room by 12 and round up to the nearest whole number.	
<b>12' Main</b>	Divide the square footage of the room by 48 and round up to the nearest whole number.	
<b>4' Tee</b>	Divide the square footage of the room by 8 and round up to the nearest whole number.	
<b>2' Tee</b> <small>"for 2'x2' tile rooms only"</small>	Same quantity as the 4' Tees.	

## Before You Begin

Careful planning helps you to estimate accurately the materials required, and to eliminate time-consuming errors. Here's an easy guide to follow in planning any space for a suspended ceiling installation.

### Step 1 DRAW THE ROOM TO SCALE.

Use the graph provided below. Choose a convenient scale, like one square equals one foot. For larger spaces, use one square for every four feet. Measure around all walls at ceiling level, including any irregular areas like bays, alcoves, columns, beams and stairwells. Note each dimension on the drawing.

### Step 2 LOCATE ROOM CENTERLINE ON THE CEILING PLAN.

If joists are visible, draw the room centerline perpendicular to the ceiling joists.

### Step 3 LOCATE MAIN TEES.

On the graph, beginning with the centerline and going toward each side wall, w

mark 4-ft. intervals across the room width. If more than 2-ft. remain between the last mark and the side wall, locate the main tees at these marks. If less than 2-ft. remain, locate the main tees at 4-ft. intervals beginning 2-ft. on either side of the centerline. The location of light fixtures and air diffusers in the room should also be considered here.

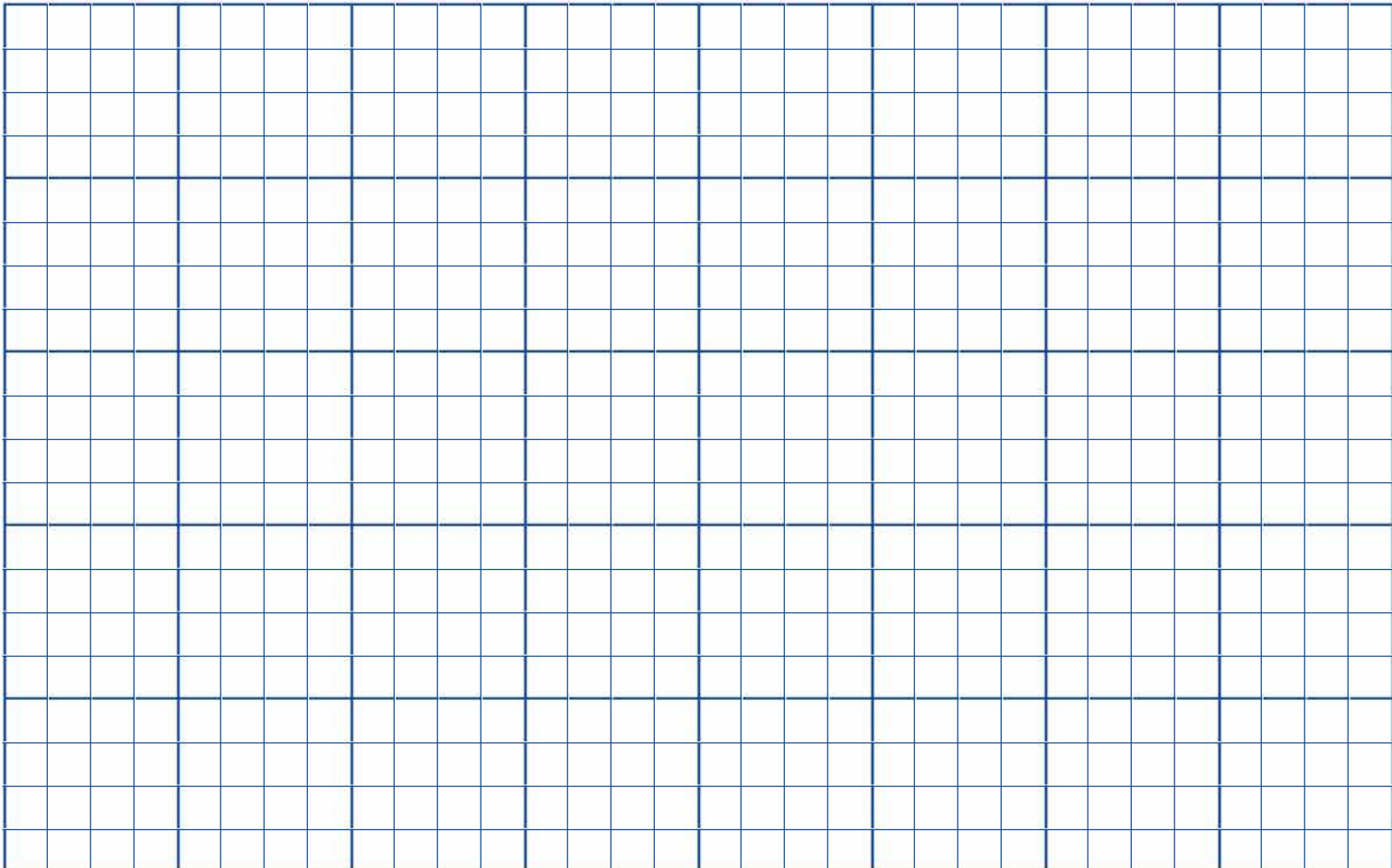
### Step 4 LOCATE CROSS TEES.

Locate the cross tees by drawing lines 2-ft. on center, perpendicular to the main tees. For economy and appearance, and to obtain border panels of equal size, begin at the center of the room, using the same procedure as in Step 3.

### Step 5 FOR A 2x2-FT. GRID PATTERN.

To modify your drawing for a 2x2-ft. grid, simply divide each 2x4-ft. module and indicate the additional 2-ft. cross tees with a broken line.

## Ceiling Layout Graph (additional layout graph on back)



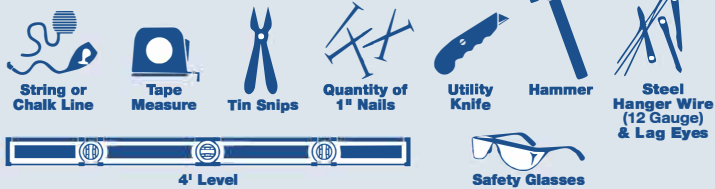
# Ceiling Estimating Guide Chart

Instructions: Find room size on top and read down for components, quantities and number of 2'x2' or 2'x4' ceiling panels

ROOM SIZE	8'x8'	8'x10'	8'x12'	8'x14'	8'x16'	8'x18'	8'x20'	10'x10'	10'x12'	10'x14'	10'x16'	10'x18'	10'x20'	10'x22'	12'x12'	12'x14'	12'x16'	12'x18'	12'x20'	12'x24'	12'x28'	14'x14'	14'x16'	14'x18'	14'x20'	14'x22'	14'x26'	14'x30'	16'x18'	16'x22'	16'x26'	16'x30'	16'x34'	16'x38'	16'x42'	18'x20'	18'x24'	18'x28'	18'x32'	18'x36'	20'x20'	20'x24'
AREA - SQ. FT.	64	80	96	112	128	144	160	100	120	140	160	180	200	220	144	168	192	216	240	288	336	196	224	252	280	308	364	420	288	352	416	480	544	608	672	360	432	504	576	648	400	480
12' WALL MOLDINGS	3	3	4	4	4	4	5	4	4	4	4	5	5	5	4	4	5	5	6	7	7	5	5	6	6	7	7	6	6	7	8	8	9	10	6	7	8	8	9	7	7	
12' MAIN BEAMS	2	2	2	3	3	3	4	3	3	3	4	4	5	5	3	4	4	5	6	7	7	5	5	6	6	7	8	9	6	8	9	10	12	13	14	8	9	11	12	14	9	10
4' CROSS TEES	8	10	12	14	16	18	20	13	15	18	20	23	25	28	18	21	24	27	30	36	42	25	28	32	35	39	46	53	36	44	52	60	68	76	84	45	54	63	72	81	50	60
2' CROSS TEES (for use with 2' X 2' panels)	8	10	12	14	16	18	20	13	15	18	20	23	25	28	18	21	24	27	30	36	42	25	28	32	35	39	46	53	36	44	52	60	68	76	84	45	54	63	72	81	50	60
NUMBER OF PANELS NEEDED IF USING 2' X 2' PANELS	16	20	24	28	32	36	40	25	30	35	40	45	50	55	36	42	48	54	60	72	84	49	56	63	70	77	91	105	72	88	104	120	136	152	168	90	108	126	144	162	100	120
NUMBER OF PANELS NEEDED IF USING 2' X 4' PANELS	8	10	12	14	16	18	20	13	15	18	20	23	25	28	18	21	24	27	30	36	42	25	28	32	35	39	46	53	36	44	52	60	68	76	84	45	54	63	72	81	50	60

## Easy-to-Follow Instructions

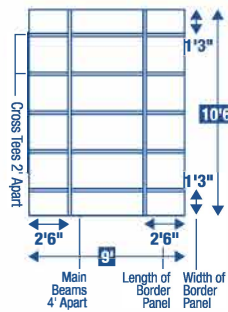
### The tools you will need.



### Step 1 DETERMINE THE ROOM LAYOUT

To ensure professional looking results, the room layout should be balanced – equal size border panels used on opposite sides of the room, as shown below. The 12' Mains should be installed perpendicular to the floor joists. If 2' x 4' truffer lights are being used the Mains should be installed parallel to the 2' side of the lights.

Establish your Main and Cross Tees drylines or chalk line at these measurements. Fasten the dryline at the desired ceiling height drop. (Tips #1 and #2)



#### Determine Panel Layout

- Determine length of border panels.
- Determine width of border panels.

For best appearance, border panels should be the same size on the opposite sides of the room. Use your room dimensions and follow the formula in the worksheets at right.

Sample Worksheets, using 2'x4' panels in a 9'x10'6" room.

#### Determine Length of Border Panels

- Divide width of room by length of single panel  
 $\frac{2}{4} \overline{)9} = 2 \text{ R } 1$
- Add the remainder 1' to length of single panel  
 $\frac{4}{5} \overline{)1} = 0 \text{ R } 1$
- Divide it by 2  
 $\frac{4}{2} \overline{)1} = 0 \text{ R } 1$

Length of the Border Panels is 2'6"

\*use 4' for 2'x4' panel, 2' for 2'x2' panel

#### Determine Width of Border Panels

- Divide length of room by width of single panel  
 $\frac{5}{2} \overline{)10} = 5 \text{ R } 0$
- Add the remainder 0' to width of single panel  
 $\frac{2}{2} \overline{)0} = 0 \text{ R } 0$
- Divide it by 2  
 $\frac{2}{2} \overline{)0} = 0 \text{ R } 0$

width of the Border Panels is 1'3"

\*use 2' for 2'x4' panel, 2' for 2'x2' panel

### Step 2 INSTALL THE WALL ANGLE

Snap a chalk line on the wall at the desired finished ceiling height. Align the wall angle so the bottom of the angle meets the chalk line. Nail the molding to the walls at the stud location 18" on-center. Where two angles meet at the corner they can be mitered or abutted.

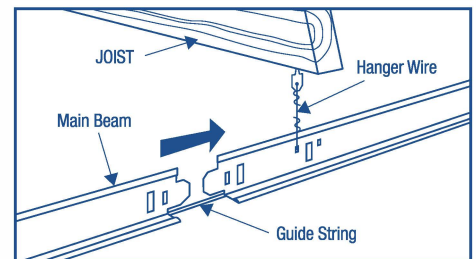
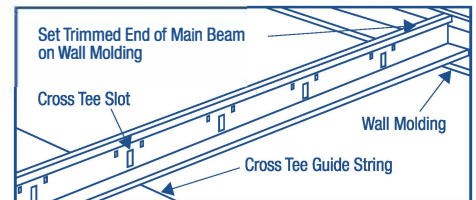
### Step 3 INSTALL THE HANGER WIRES

Use 12-gauge hanger wire. If less than 12-gauge wire is used, a minimum of three wires twisted together will be required. Starting at the intersection of the drylines, using a lag eye, install the first hanger wire to the existing ceiling above. Working down the Main dryline install subsequent hanger wires 48" on-center. Hanger wires should be installed across the room in subsequent rows 48" on-center. (Tips #3 and #4)

### Step 4 INSTALLING THE FIRST ROW OF MAINS

Measure and cut your first Main so a Cross-Tee notch is aligned under the Cross Tee dryline.

Holding so the bottom face of the Main is even with the dryline, bend and insert the hanger wire through the wire holes above the keyhole. To complete, bend and wrap the wire around itself three times. Install subsequent Mains by clicking in the male female ends together. Cut the last Main in the row so that the Main fits tightly into the wall angle. Trim the first Main in each row and complete by installing the remaining rows 48" on-center.



INSTALL CROSS TEES

### Step 5 INSTALLING CROSS TEES

Install the border panel Cross Tees by measuring the distance from the wall to the Main. At this dimension cut so the Cross Tee fits tightly into the wall angle. Install additional Cross Tees by inserting the tab ends into the cross tee notches on the main. The 4' Cross Tees will be installed perpendicular to the Mains every 2' on-center. If you are installing a 2'x2' ceiling tile, the 2' Tees will be installed perpendicular to the 4' Tees at the midpoint of the 4' Tee.

### Step 6 CUTTING AND PLACING THE CEILING PANELS

Beginning at the edge of the room, cut the border panels to fit accordingly. After completing the border panels, insert the full panels to complete.

## Installation Tips

**Tip #1-** To ensure a perfectly level ceiling, drylines should be installed perpendicular to the Mains every 4' across the room and be used as ceiling level guides.

**Tip #2-** A minimum drop of 3" is required. If smaller ceiling height is desired please reference CeilingMAX by ACP, a surface-mounted ceiling grid system.

**Tip #3-** When installing under joists and there is not a joist directly above the intersection, fasten to the closest joist. When installing under a drywall ceiling locate the hidden joist for fastener attachment.

**Tip #4-** For best results the hanger wires should be installed using lag eyes and the wires should be wrapped around itself three times.

# Ceiling Layout Graph

