STC SOUND CONTROL

Hi-Sabin Panels Quantity Guide

The number of Hi-Sabin Panels that are needed to provide reverberant noise control depends on several characteristics of the space and the panels themselves. These include: the amount of sabins already in the space; desired reverberation time; cubic volume; and the thickness, size and mounting of the panels.

It is best to have an architect, acoustical engineer, or other designer who is familiar with reverberation time calculations determine the proper amount of panels required. As a reasonable estimate, we offer the following tables based upon a space with the following characteristics:

- The existing space has mostly hard surfaces such as wood, plaster, gypsum board, concrete, stone, brick or tile and few soft surfaces such as carpets, drapery or upholstered furniture;
- The desired reverberation time is about 0.8 seconds, ideal for restaurants and offices.

Panel Area as Percent of Floor Area										
for 2" thick flat panels, Type J mounting, in typical reverberant space to RT_{60} = 0.8										
Height (Feet)	9	10	11	12	13	14	15	16	17	18
Percentage	11.5%	12.8%	16.5%	20.2%	23.9%	27.5%	31.2%	34.9%	38.6%	42.3%

Determine the percentage of panel area for the ceiling height from the table above then multiply by the floor area to get the area of panels for 2”-thick flat panels with Type J mounting (on standoffs, spaced apart). For patterned panels, panels of other thickness, and different mounting type, multiply by the correction factor in the table below. Then divide by the face area of the panels used to get the total number of panels needed.

Correction Factors: Different Panels and Mountings				
Panel Face	Flat			Patterned
Thickness	1"	1-1/2"	2"	1-1/2"
Type A Mounting	2.08	1.67	1.39	1.92
Type F-50 Mounting	1.79	1.39	1.32	1.56
Type J Mounting	1.47	1.19	1.00	1.32

For example: A 1,200 sf space that is 13 feet high has a percentage of coverage value of 23.9%, so the area of 2” thick Type J-mounted panels needed is 1,200 x 0.239 = 286.8 sf. If the panels are 1” thick with Type F-50 mounting (on standoffs, tight with no space) then the correction factor of 1.79 is used; 268.8 x 1.79 = 513.4. sf these panels are 2’x2’ in face size, the area per panel is 4 sf and the number needed is 513.4/4 = 128 panels. The 2’x2’x1” flat panels are packed 24 per carton, so 5 cartons provide 120 panels. If 120 panels are installed instead of the 128 calculated the reverberation time will be a bit above the 0.8 seconds figured in setting up the tables.