

# Sound Advice

Helpful Information from *Stewart Acoustical Consultants*

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## ROOMS FOR BAND AND CHORAL PRACTICE

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Rooms for group instruction or practice of bands, orchestras, and choral groups must be large enough to provide a blending of sound and not be too loud. Often, the initial plans for such spaces are not large enough. The following guidelines are for initial planning of floor area and room volume per person and ceiling height. These are for high-school, college, or adult groups. Rooms can be a little smaller for younger groups. (Middle school numbers shown in parentheses.)

| Room              | Band                       | (Midsch)  | Chorus                 | (Midsch) |
|-------------------|----------------------------|-----------|------------------------|----------|
| Floor Area/person | Minimum 25 sq. ft.         | (21)      | Minimum 15 sq. ft.     | (13)     |
|                   | Preferably 30 or more.     | (25)      | Preferably 20 or more. | (17)     |
| Volume/person     | Minimum 400 cu. ft.        | (320)     | Minimum 300 cu. ft.    | (240)    |
|                   | Ideally 600 to 700.        | (450-600) | Up to 400 desirable.   | (350)    |
| Ceiling Height    | Minimum 16 ft.             | (15)      | Minimum 16 ft.         | (14)     |
|                   | Preferably 18-22 ft.       | (16-20)   | Up to 20 ft. desirable | (18)     |
|                   | Up to 28 ft. if room small |           |                        |          |

If a band room ceiling needs to be more than 22 feet high, a cloud in a grid is usually suspended over the band at about 18 to 20 feet to provide some reflections. Note that in chorus rooms either the area or height needs to be more than the minimum to meet minimum volume requirements. Sometimes conditions do not allow these minimums to be provided. Compromises are then necessary.

These rooms should have a mixture of diffusing (or scattering) and absorbing elements on the walls and ceiling. There may be little added absorption in a choral room of minimum volume. Band rooms must have absorption to control loudness even if they do not have adequate room volume. Thus, small band rooms often must be very dead.

The rooms should be designed to avoid the need for a fire-rated ceiling. The available fire-rated acoustical ceilings do not provide good bass absorption needed in music rooms. Absorptive ceiling areas are usually either fiberglass panels or wood-cement panels with fiberglass above.

The opinions and desires of music directors vary regarding the liveliness of these practice spaces. If the space is primarily for teaching basics, it is more desirable that it be deader to allow individuals to be heard more clearly. If it is for practice by an accomplished group, it is usually preferable that the space be more lively to simulate a performance space. If the room is large enough, its acoustics can be modified by adding or removing absorptive panels.

The ventilation systems in these rooms should be quiet, but do not have to be exceptionally quiet unless the rooms will be used for recording. Adequate sound isolation must be provided so the musicians do not disturb neighbors in the building. Unoccupied buffer areas are helpful.