

AACE International Recommended Practice No. 13S-90

**RECOMMENDED METHOD FOR DETERMINING BUILDING
AREA**

TCM Framework: 7.3 – Cost Estimating and Budgeting

Prepared by the AACE Institutional/Industrial/Commercial Cost Estimating Subcommittee

This recommended practice was originally proposed in November 1986 as a proposed standard method for determining area of health care facilities. After publication and receipt of member comments, it was revised and expanded to cover all types of buildings and was republished for further comment in August 1989. Subsequently received comments were of an editorial nature only and did not substantively alter the document. The editorial comments were incorporated and the revised document was formally accepted by the AACE Board of Directors as an AACE standard in June 1990.

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The building area of a major building structure is the sum of the areas of the several floors of the building, including basements, mezzanines, intermediate floored tiers, and all penthouses, measured from outside face to outside face of exterior walls or from the center line of common walls separating buildings. This criteria can be applied to any building program.

THE RULES OF MEASUREMENT:

1. Definitions

- a. No deduction in floor area shall be made for openings such as stairs, elevators, service shafts, duct shafts, escalators, and other vertical elements.
- b. Those areas such as auditoriums, foyers, gymnasiums, and the like extending vertically through two or more floors shall be included at one level only, the actual floor level.
- c. The crawl space and service tunnels having a floor and a clear height of 6 ft (1.83 m) shall be included at their full building area. Crawl spaces and services having a floor and clear height of less than 6 ft (1.83 m) shall be included at one-half of their building area.
- d. Covered floor areas open to the atmosphere such as covered walkways, open roofed-over areas that are paved, porches, exterior balconies, canopies, and similar spaces shall be included at one -half their building area.
- e. Slabs, decks, and floors that are not covered by roof or ceiling shall not be included.
- f. Interstitial space containing equipment that will otherwise require dedicated floor space, including appropriate maintenance area, shall be included at its full building area. Interstitial space containing only structure and service systems shall not be included.
- g. Sloping or stepped floors shall be measured flat on a horizontal plane.
- h. Building area does not include exterior unroofed terraces, steps, chimneys, roof overhangs, etc.

2. The Outside Face of Exterior Walls

The outside of the exterior wall is defined as the outside perimeter line of exterior wall facing at each floor level. No deduction is taken for setbacks at windows, glazing, etc, or increase added for protruding features such as columns, cornices, or exterior bands.

3. The Building Area

The building area is composed of functional areas. The functional areas are from center line to center line of the enclosing walls except at exterior walls where such measurement is taken to the outside face of the exterior wall. Deductions are not taken for columns, partitions, and projects necessary for the building.

4. The Functional Areas

The functional areas are typically called "the departments" and are divided into:

- a. functional areas
- b. common public areas
- c. mechanical/electrical areas

- d. circulation areas

5. The Functional Areas

The square-foot area of each department will include its specific work area, the circulation within that department required for its functioning, and the public areas committed to servicing only that department. Such area includes duct and pipe chases, but does not include mechanical/electrical areas and space dedicated for the maintenance of that type equipment. These areas are measured as described in Section 3.

6. The Common Public Areas

The common public areas typically are composed of the following spaces and the circulation area connecting these spaces:

- a. main lobby
- b. adjacent lobbies
- c. vending areas
- d. elevator lobbies and vestibules

These areas are measured as described in Section 3.

7. The Mechanical/Electrical Areas

The mechanical/electrical areas include equipment rooms, switchgear rooms, telephone equipment, and similar space containing such equipment and/or dedicated to its maintenance. These areas are to be measured as described in Section 3.

8. Circulation Areas

- a. Circulation areas are defined as corridors that serve more than one department, eg, stairs, elevators, escalators, and similar space that does not exist for the sole benefit of one department. These areas are to be measured as described in Section 3.
- b. Circulation areas can be derived by subtracting the department areas from the total building area.

9. Area Diagram

The American Institute of Architects (AIA) has established standards for net assignable area of buildings. For an illustrative diagram, contact AIA, 1735 New York Avenue, NW, Washington DC 20006. Request AIA Document D101, The Architectural Area Volume of Buildings.