BOMA 2017 For Office Buildings

Standard Methods of Measurement - ANSI/BOMA Z65.1-2017

Approved American National Standard ANSI

Building Owners and Managers Association (BOMA) International
www.boma.org

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An American National Standard
Approved September 12, 2017 by American National Standards Institute, Inc.

Secretariat
Building Owners and Managers Association International

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Executive Summary

Since 1915, BOMA International has published the office floor measurement standard. The standard has evolved over time and is known as the preeminent standard for calculating areas in Office Buildings. The application of the standard produces areas vital to lease transactions and building valuation in a consistent manner, regardless of geographic location, building architecture, or the practitioner who applies it.

The BOMA 2017 Office Standard features two distinct methods of measurement called **Method A - Multiple Load Factor Method** and **Method B - Single Load Factor Method**. With both methods, it is necessary to measure all the floors of a building.

Method A follows the BOMA 1996 and BOMA 2010 Method A standards in its approach. It generates multiple Load Factors for various shared space types (e.g. Building Service Area, Floor Service Area, Inter-Building Area etc). These Load Factors are successively applied to Occupant Areas on a pro-rata basis.

Method B was first introduced in the 2010 Office Standard. Method B essentially consolidates all shared space types together to produce a single Load Factor for the Building which is then applied to all Occupant Areas uniformly. To achieve this, Method B establishes a consistent and permanent corridor configuration called Base Building Circulation on every single and multi-tenant Floor, regardless of whether such corridors exist or not. This "fixed" allocation of shared space means that Load Factors are less likely to change over time and Rentable Areas are less likely to shift; even when Floors are physically reconfigured.

Both Method A and Method B offer their own advantages from a building management or leasing perspective; however neither Method A nor Method B create a larger or smaller Building. They simply allocate the same quantity of area differently.

The end product of applying this standard is a spreadsheet called the Global Summary of Areas. Practitioners must enter raw data called Input Values directly into the spreadsheet. It is advised that Input Values be determined in CAD, BIM, or other such spatially-aware software. Input Values are generated for each space in the Building according to its appropriate Space Classification while considering the outer extents of measurement (called Boundary Area) and the way such spaces adjoin each other (called Wall Priority).

Once the Input Values are determined and entered into the Global Summary of Areas, the spreadsheet allocates shared space among Occupants and calculates Rentable Area. Method A and Method B are independent methodologies with their own distinct Global Summary of Areas.

Due to the sheer variety of architectural designs, space configurations, and business requirements found in today's Office Buildings, this standard goes to great detail in order to cover as many real-world building conditions as possible. Since it is not possible to cover every conceivable permutation, BOMA International does offer question-and-answer style interpretations to users of the standard via the Interpretations Subcommittee of BOMA International's Floor Measurement Standards Committee.

This 2017 Office Standard includes many new features, enhancements, and clarifications. Key among them are compatibility with *International Property Measurement Standards: Office Buildings*, greater flexibility in allocating shared space, improved text and illustrations throughout, helpful hints, and an easier step-by-step layout among other things. It also addresses many questions that users of the BOMA standard have asked about previous versions of the standard.

This executive summary is a convenience only. To fully understand and apply the standard, users must read the document in its entirety.

Introduction

BOMA 2017 for Office Buildings is published by the Buildings Owners and Managers Association (BOMA) International and is approved by ANSI (The American National Standards Institute). The standard is used by building owners, managers, tenants, appraisers, architects, space planners, and building measurement professionals to establish floor area in Office Buildings. The BOMA Standard is considered the de facto building measurement standard in many real estate markets throughout the United States, Canada, and internationally.

BOMA International published the first office measurement standard in 1915. Since then, it has undergone numerous revisions, most recently in 2010. This 2017 standard further builds upon BOMA's legacy of standards by clarifying existing concepts, introducing new concepts, and improving the applicability and readability of the document.

The primary objectives of this standard are:

- **To promote an unambiguous framework for determining the areas of Office Buildings with a strong focus on Rentable Area calculations.**
- **To facilitate transparency and clear communication of building measurement concepts among all participants in the commercial real estate industry.**
- **To allow a comparison of values on the basis of a clearly understood and generally agreed upon method of measurement.**
- **To align concepts and measurement methodologies with the *International Property Measurement Standards: Office Buildings* (November 2014) document.**

Helpful Hints

This document has been formatted to fit Letter Landscape (8.5"x11") paper to best accommodate computer monitors, smartphones, tablets, and the printed page.

When viewing this document on a computer or mobile device, the navigation links at top-left provide for easy access to major sections of this document. Additionally, blue underlined links throughout the document facilitate navigation.

About BOMA International

The Building Owners and Managers Association (BOMA) International is a federation of 91 BOMA U.S. associations and 18 international affiliates. Founded in 1907, BOMA represents the owners and managers of all commercial property types including nearly 10.5 billion square feet of U.S. office space that supports 1.7 million jobs and contributes $234.9 billion to the U.S. GDP. Its mission is to advance a vibrant commercial real estate industry through advocacy, influence, and knowledge.

BOMA International is a primary source of information on building management and operations, development, leasing, building operating costs, energy consumption patterns, local and national building codes, legislation, occupancy statistics, technological developments, and other industry trends.

BOMA International's members are building owners, managers, developers, leasing professionals, corporate facility managers, asset managers, and the providers of the products and services needed to operate commercial properties.

About ANSI

The American National Standards Institute (ANSI) oversees and guides the development of BOMA floor measurement standards. ANSI facilitates the development of American National Standards (ANS) by accrediting the procedures of standards developing organizations (SDOs). These groups work cooperatively to develop voluntary national consensus standards. Accreditation by ANSI signifies that the procedures used by the standards body in connection with the development of American National Standards meet the Institute's essential requirements for openness, balance, consensus and due process.

Legacy BOMA Office Standards

Original publication	September 15, 1915
Reissued without change	December 1, 1925
Revised and reissued	December 8, 1952
Readopted	December 6, 1955
Reissued	January 10, 1956
Reprinted	April 1963
Reprinted	April 1966
Reprinted	April, 1970
Revised and readopted	June, 1971
Reprinted	April, 1972
Reprinted	February, 1973
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Revised and readopted	July 31, 1980
Reissued	August, 1980
Reprinted	May, 1981
Reaffirmed	June 21, 1989
Reprinted	August, 1990
Revised and readopted	June 7, 1996
Revised and readopted	May 11, 2010

IPMS Compatibility

The International Property Measurement Standards (IPMS) are developed by the International Property Measurement Standards Coalition (IPMSC). The IPMSC was founded at the World Bank offices in May 2013. The international coalition is represented by professional and not-for-profit organizations from around the world with a mutual interest in developing and implementing consistent measurement guidelines for all building types, regardless of geography. The IPMSC consists of a Standard Setting Committee and a Board of Trustees which includes several BOMA representatives. BOMA International and several of its affiliated associations throughout the world are key players in the development of the IPMS standards.

The first IPMS standard, known as IPMS for Office Buildings was published by the IPMSC on November 24, 2014. The primary purpose of IPMS for Office Buildings is to provide a common measurement language and a consistent measurement standard for measurement and reporting. IPMS for Office Buildings does not gross-up or apply Load Factors to a Building's Occupants. Therefore, it cannot be used in office leasing markets where tenant Rentable Areas include a proportionate share of Service and Amenity Areas. IPMS for Office Buildings is a building-wide measurement standard that reports areas on a floor-by-floor basis. The standard is comprised of three distinct measurement methods, known as IPMS 1, IPMS 2 and IPMS 3.

IPMS 1 is used for measuring the total area of a Building on a Floor-by-Floor basis, including external walls. It is similar to the Construction Gross Area (CGA) in the 2009 BOMA Gross Areas Standard (ANSI/BOMA Z65.3). The area of IPMS 1 includes below grade levels and it also includes balconies, covered galleries and rooftop terraces; however, these unenclosed areas are stated separately. IPMS 1 excludes open light wells and ground level patios and decks, external parking and other unenclosed ground level areas. The primary purpose of IPMS 1 is for building planning and development purposes. IPMS 1 is not applicable to this BOMA Office Standard. Please refer to the latest BOMA Gross Areas Standard (published after the 2009 version) for more information regarding IPMS 1 compatibility.

IPMS 2 is used for measuring the interior of a Building and reporting various areas by category on a Floor-by-Floor basis. The sum of the categorized areas equal the inside finished perimeter measurement, known as the Internal Dominant Face. The area of IPMS 2 is the equivalent to Boundary Area in this BOMA Office Standard, regardless of which Method (A or B) is used. IPMS for Office Buildings categorizes the spaces within IPMS 2 to

IPMS Compatibility

benchmark the efficient use of space, whereas BOMA categorizes the space within Boundary Area to calculate lease-related areas. The IPMS 2 categories are Vertical Penetrations, Structural Elements, Technical Services, Hygiene Areas, Circulation Areas, Amenities, Workspace, and Other Areas. As previously mentioned, none of the categorized areas in IPMS 2 are used to "gross-up" tenants. This is the most significant distinction between IPMS and BOMA.

IPMS 3 is used for determining the areas of a Building used exclusively by Occupants. It is the equivalent of Tenant Area in Method A of this BOMA Office Standard. Method B is not compatible with IPMS 3 since Base Building Circulation may encroach on Tenant Area. Both IPMS 3 and Tenant Area include private Balconies, Covered Galleries, and Rooftop Terraces (disclosed separately).

If you are applying Method A of this standard to a Building, you will also be determining IPMS 2 and IPMS 3 area information. If you are applying Method B of this standard, you will determine only IPMS 2 area information. The unification of IPMS and BOMA areas offer a comprehensive examination of any Office Building, which will be of great benefit to those in the commercial real estate industry.

For more detailed information about IPMSC and the IPMS measurement standards, please go to www.ipmsc.org

Application and Use

This standard is intended exclusively for Office Buildings and their associated structures and may be applied to single tenant, multi-tenant, or multi-building configurations. It may be used to measure new, existing, and proposed buildings. It does not measure sidewalks, surface parking, landscaping, drainage structures, or other ancillary site improvements. This standard is chiefly designed to generate Rentable Area figures – a key metric in office leasing; however, it also produces area figures which may be of interest to those examining space utilization, valuation, benchmarking, and the allocation of building expenses to various cost centers.

As of this writing, BOMA publishes six distinct building measurement standards, each of them targeting different building types and/or applications. Generally, a building whose occupancy comprises 50% or more of a particular use (e.g. Office, Industrial, Retail, or Multi-Unit Residential), should use the corresponding single-use standard. Therefore, a Building whose primary use is office with ancillary retail, parking, and storage should use this Office Standard.

It is preferable to apply a BOMA single-use standard whenever possible, however the BOMA Mixed-Use Standard is appropriate for buildings that do not have an easily identifiable "primary use," or where the provisions of a governing document (such as a lease, cost sharing or easement agreement, condominium declaration, etc.) constitute an overriding direction with respect to floor measurement. Readers are encouraged to refer to the latest BOMA Mixed-Use Properties Standard (ANSI/BOMA Z65.6) for more information.

This standard is primarily designed to generate leasing figures based on Rentable Area according to the provisions herein. It may be used for Buildings leased to a single tenant without any other special considerations; however, for Buildings leased to a single tenant on a gross area basis, the latest BOMA Gross Areas of a Building Standard should be applied.

Each and every iteration of an Office Building measurement is a snapshot in time. It is important to remember that physical changes occurring within the Building may impact Load Factors; and consequently, the Rentable Areas on individual Floors or throughout the Building.

All BOMA Floor Measurement Standards

Single-Use Standards

- Office Buildings - ANSI/BOMA Z65.1
- Industrial Buildings - ANSI/BOMA Z65.2
- Multi-Unit Residential - ANSI/BOMA Z65.4
- Retail Buildings - ANSI/BOMA Z65.5

Additional Standards

- Gross Areas of a Building - ANSI/BOMA Z65.3
- Mixed-Use Properties - ANSI/BOMA Z65.6

The use of any BOMA floor measurement standard is completely voluntary.

BOMA Floor Measurement Standards are periodically subject to revision and republication. Please refer to www.boma.org for the latest versions.