RICS professional statement

RICS property measurement

Acknowledgments

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Part 2 – IPMS: Office Buildings

Part 3 – Code of measuring practice
This document, RICS property measurement, updates the RICS Code of measuring practice (6th edition) and incorporates International Property Measurement Standards (IPMS). It comprises the following three elements:

1. Professional statement: office measurement (applies to office measurements only)
2. IPMS: Office Buildings (applies to office measurements only)
3. Code of measuring practice, 6th edition (currently applies to all building classes except offices and is effective globally from 18 May 2015).

This document reflects the first IPMS standard (IPMS: Office Buildings) and will be updated over time to comply with other IPMS standards, including residential, industrial and retail, as they are published.

Elements of this document are mandatory for RICS members and will be subject to regulation by RICS. Other elements are professional best practice and practitioners are strongly advised to follow them.

International standards at the core of the profession

International standards establish universally agreed best practice and promote confidence among end users of surveying professional services. In sectors such as valuation RICS already requires chartered surveyors to follow the international standards (IVS), which are set out in the RICS Valuation – Professional Standards (Red Book).

Following its launch in November 2014, RICS members in future will need to adhere to the International Property Measurement Standards (IPMS): Office Buildings through the use of this professional statement.

RICS members are advised that measurements of all other types of property including residential, industrial and retail should continue to be undertaken in accordance with the Code of measuring practice (6th edition), which is reproduced in full in this document.

RICS members undertaking office measurements must be able to demonstrate adherence to the professional statement for measuring office buildings unless this is contrary to their clients’ instructions.

What is included in this document?

Part 1
Professional statement: office measurement
Professional statements (PSs) set out mandatory requirements for RICS members.
The RICS professional statement for measuring offices is mandatory. RICS members undertaking office measurements must be able to demonstrate compliance if called upon by RICS Regulation. Further guidance on how this professional statement is regulated can be found on the RICS website.

Part 2
International standards – IPMS: Office Buildings
International standards are developed and implemented collectively by professional institutions: they are not owned by any one entity. Recognised across international markets, these standards are mandatory for RICS members. This document reproduces, with permission from the IPMSC, IPMS: Office Buildings in its entirety.

Part 3
The Code of measuring practice (6th edition) is reproduced in full within this document. It is now global, with effect from 18 May 2015, and continues to provide guidance to professionals on the measurement of all property types except office buildings, which are covered by the professional statement for the measurement of office buildings.
The information set out within the Code represents best practice and RICS strongly advises its use by members.
## What you need to follow:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>Mandatory for RICS members from 1 January 2016</td>
<td>Mandatory for RICS members from 1 January 2016 unless the client instructs otherwise</td>
<td>No longer applicable</td>
</tr>
<tr>
<td>Residential</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Professional best practice – RICS members are strongly advised to follow</td>
</tr>
<tr>
<td>Industrial</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Professional best practice – RICS members are strongly advised to follow</td>
</tr>
<tr>
<td>Retail</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Professional best practice – RICS members are strongly advised to follow</td>
</tr>
<tr>
<td>Mixed use</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Professional best practice – RICS members are strongly advised to follow</td>
</tr>
</tbody>
</table>
Part 1 – Professional statement: office measurement

Professional statements (PSs) set out mandatory requirements for RICS members.

The RICS professional statement for measuring offices is mandatory. RICS members undertaking office measurements must be able to demonstrate compliance if called upon by RICS Regulation. Further guidance on how this professional statement is regulated can be found on the RICS website.

This replaces references to offices in the RICS Code of measuring practice (6th edition, 2007).
1 Application of this professional statement

1.1 Background and aims of the professional statement [PS]
IPMS: Office Buildings is the overarching international standard, below which sits this professional statement (PS) for RICS members. The aim of the PS is to advise RICS members how to measure office buildings in accordance with IPMS to provide a consistent and transparent global basis for the measurement of office buildings. This international standard will provide a basis to support the valuation of property, the analysis of market transactions on a global basis and the functional requirements of others, including owners, occupiers, facility managers, property managers, asset managers, agents, brokers, space measurement professionals, cost consultants and architects.

IPMS: Office Buildings enables properties to be compared like-for-like using one global language on a widely understood basis.

This PS is mandatory for RICS members. It incorporates IPMS: Office Buildings and includes detail on its practical implementation. It also provides advice to enable members to compare the IPMS definitions of office areas with the definitions contained in the Code of measuring practice (6th edition) and to calculate the differences.

RICS recognises that, for a period of time, comparison between the areas within this PS and the areas in the Code of measuring practice will be necessary and members are encouraged to report on a dual basis until IPMS is embedded into market practice.

1.2 Effective date of the professional statement
This PS replaces the offices element only of the Code of measuring practice (6th edition) with effect from 1 January 2016.

1.3 Application of the professional statement
The Code of measuring practice (6th edition), while originally for use in the UK, has been adopted widely in a number of jurisdictions across the world. As there becomes a greater acceptance of the new IPMS, adoption of the new standard by members will ensure they are well placed in the market and remain at the forefront globally.

It is accepted that full implementation of IPMS will take longer in some markets than others. This is why a dual reporting basis, with mandatory IPMS adoption, is recommended for a period of transition. In the event of a physical change to a building then members must take the opportunity to adopt IPMS as the primary basis for measurement. Members must also use IPMS for any new event requiring the use of building measurements. In circumstances where IPMS is not adopted, due to instructions by clients, then the report must state the reason for departure.

RICS is developing a free online IPMS Convertor to assist members in converting IPMS measurements into Code of measuring practice equivalents. The IPMS Convertor will be updated periodically to include other measurement standards and will be available at: www.rics.org/ipmsconverter

1.4 Scope of the professional statement
This PS deals only with measurement practice for office buildings. Valuation techniques such as the adoption of different rates of value for areas with limited headroom, special uses, particular forms of construction, basement rooms and the like do not form part of the PS. These matters and the value, if any, to be attributed to any particular floor areas because of their special characteristics are part of the valuer’s, agent’s or developer’s judgment. However, such areas may be separately identified within IPMS: Office Buildings and this PS as ‘limited use areas’.

This PS does not attempt to define everyday words and phrases. To do so is to go beyond the purpose of the PS. Most weight should be given to common-sense interpretations and less weight to reliance on semantics when interpreting the meaning of the PS.

1.5 Use of the professional statement
Any measurement used as part of a calculation needs to be consistent with the method used to analyse data from comparable transactions or other evidence, unless legislation dictates or the client requires otherwise, in which case this must be clearly stated in the terms of engagement and report. That is, the valuation has to be made after consideration of evidence showing the extent of the relevant floor space and uses, such as office, kitchen, rest areas, car parking, etc. on a like-for-like basis.

The basis of IPMS floor space measurement and reference to relevant applications in the PS, being those found in IPMS: Office Buildings, must be stated in reports by service providers so that users and third parties are clear as to what floor space has been included, with a clear description of that floor space cross-referenced to plans. Depending on the basis of floor space measurement stated in the report, any cross-reference to plans needs to state the degree of reliance given to the plans.

1.6 Responsibility to clients
Long established and understood professional responsibilities to clients are matched by legal obligations to users of property. In many jurisdictions it is a criminal offence for those involved in property transactions to give false or misleading information about properties that are offered for sale. RICS members are also bound by ethical standards, the Red Book and the RICS Rules of Conduct.
A client may require a different measurement basis to IPMS to be provided for legislative, local practice or internal corporate purposes. This is acceptable but must be stated in writing in the terms of engagement.

1.7 Identity and enquiries

This RICS professional statement (PS) is called Professional statement: office measurement. It replaces the offices element in the Code of measuring practice (6th edition), in the light of IPMS: Office Buildings.

The offices element of the Code of measuring practice will remain available for members for a period of time in order that comparisons can be made between it and this PS, and to enable members to convert measurements and areas. Enquiries concerning this PS should be addressed in the first instance to:

Professional Groups, IPMS Enquiries
RICS
Parliament Square
London
SW1P 3AD
UK
2 Principles of measurement

2.1 General principles of measurement and calculation

It is mandatory for all RICS members involved with the measurement of office buildings to comply with the following requirements:

1. Provide a statement of the dates when the measurements are taken, or captured and transferred to plan.
2. Provide a statement of the measurement methodology adopted.
3. Provide the reference and scale of any plans, if and when used.
4. When converting between metric and imperial units state the conversion factor and any rounding.
5. Retain a record of the RICS member responsible for certifying the above requirements.

In addition to the specific mandatory principles set out above, the following principles were adopted in IPMS: Office Buildings and are mandatory in this PS for all office properties:

'1. The item must be capable of being measured.
2. The measurement must be objectively verifiable.
3. The measurements and calculations must be clearly documented and the following stated:
   • The IPMS standard used, for example, IPMS 1, IPMS 2 – Office or IPMS 3 – Office
   • The method of measurement
   • The unit of measurement
   • The measurement tolerance
   • The date of the measurement
4. Where an interface is adopted the reconciliation between IPMS and the standard referred to must be detailed.
5. Inevitably there will be situations not directly covered by IPMS [or the PS]. In these circumstances the principles of IPMS [and the PS] should be extrapolated using a common-sense approach.'

For the specific IPMS measurements:

'Areas for IPMS 1 are to be taken from drawings or on site.
Measurements for IPMS 2 – Office and IPMS 3 – Office are to be taken [from drawings or on site with measurements] to the internal dominant face for external walls or otherwise horizontally at wall-floor junctions, ignoring skirting boards, cable trunking, heating and cooling units, and pipework. [See 4.2.3 Internal dominant face.]
Buildings are to be measured individually and reported on a floor-by-floor basis.'

2.2 Unit of measurement

IPMS: Office Buildings does not prescribe a specific unit of measurement. It is recommended that members adopt metric or imperial units in accordance with the generally accepted unit for the market or jurisdiction.

Where users and third parties require measurements to be converted, the conversion factor adopted must be stated in the report, because the total will vary depending on the number of decimal places adopted.

2.3 Accuracy

Throughout the range of types of office buildings likely to be encountered an indication of the reliability of final reported figures is of paramount importance, especially for high value office space. Reliability is usually indicated by the use of the term ‘accuracy’.

It is the responsibility of members not to mislead and to advise on the level of accuracy at the outset and then adopt all available measuring and computing processes so as to satisfy the client’s/user’s accuracy requirements.

Members are directed to the following parameters for evaluating the level of accuracy that could be expected from a measured survey and one that is both achievable and acceptable:

• What is the purpose of the measurement exercise?
• What are the client’s requirements and expectations in terms of accuracy and confidence in measurement?
• What are the building or site conditions at the time of survey that would influence how measurements are undertaken?
• What are the time/cost elements involved in the measurement and reporting?
• What would be the ramifications should the level of accuracy be deemed insufficient for the purpose?
Consideration of these issues should identify the necessary working tolerances to be adopted throughout the various stages of measurement and area calculation.

The measurement tolerances must be specified in the scope of work and report.

The PS working group considers that the repeatability of building dimensions will assist in determining practical data accuracy levels. In turn this relates directly to manufacturers’ specifications of the survey/measuring instruments available. A hand-held laser measuring device is likely to be the default option for the measurement of office space and manufacturers would claim accuracy to single figure millimetres over the sort of distances likely to be encountered within an office environment (that is, in tens of metres).

Each of the processes involved in office building surveys (measured survey, area calculation and report) can affect the overall accuracy of the area figures that are reported and any ensuing valuation, service charge calculation and so on.

All survey measurement exercises potentially involve a risk of error. Members working to this PS must carry out space dimensioning in such a way as to minimise the risk of errors occurring and manage the effect of errors when they do occur, whatever the cause.

As a means of delivering final area figures to an expected or agreed level of accuracy, operational survey procedures and workflows should help to ensure that:

- the linear site dimensions recorded are within the necessary tolerances
- procedures, processes and equipment checks are in place to support accuracy of measurement
- there is sufficient redundancy of recorded dimensions to mitigate erroneous ones
- there are software check routines for the area calculations
- there is an appropriate quality assurance regime whereby checks are undertaken and audited.

Accuracy values may be stated in various ways. Specialist geomatics surveyors will be familiar with accuracies stated in line with the RICS guidance note Measured surveys of land, buildings and utilities (3rd edition, November 2014), in section 2.3 Survey accuracy band table, their derivation and use (see Appendix A to this PS).

The working group considers that accuracy values stated simply as a percentage of the total floor area is a format likely to be the most readily appreciated across the range of survey disciplines, property owners, agents and users without being too scientific. The RICS Code of measuring practice (6th edition, 2007) suggested that the expected reported area figures for high value office space be accurate to within +/-1%. Since 2007, with increased property values and more sophisticated equipment available, this figure may be considered conservative. The working group considers that the measurement and calculation tasks for workspace, i.e. office space within IPMS 3 – Office, together with the limited use areas should at least match this accuracy figure. It is anticipated that in many situations a higher level of accuracy will be achievable and may be desirable with appropriate measuring methods, equipment and computer processing. Other component areas within an office building may not warrant the same high degree of accuracy as office work space.

Where measurements taken are used as a basis for valuation, members must have regard to the current edition of the RICS Valuation – Professional Standards (the Red Book) dealing with ethics, competency, objectivity and disclosure.

### 2.4 Measurement reporting

RICS members must refer to the PS in respect of the requirements for reporting measurements and areas of office buildings.

Whether or not required by a client, members must record and retain, if used, the following:

- IPMS measurements and areas cross-referenced to an appropriately coloured drawing for each floor of the building
- IPMS areas on drawings cross-referenced to a component area spreadsheet, if reporting separate elements of IPMS 2 – Office.

### 2.5 Limited use areas

‘Service providers need to be aware that in certain markets there may be areas in buildings that are incapable of occupation in the light of government regulation or labour legislation. Such areas and their limitations are to be identified, measured and stated separately within IPMS [as limited use areas]. For example, if areas are subject to a height restriction, the height should be stated in the reporting document and in the sample spreadsheet.

Users and third parties need to be aware that the inclusion of measured areas in IPMS does not necessarily mean that the areas are available for legal occupation or use.’

**IPMS 2.3**

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Limited use areas allow members and users to quantify separately those areas in the relevant IPMS total, such as areas with limited height, where special consideration may need to be applied for valuation or other purposes. In some jurisdictions it is common practice to exclude, or treat differently, areas below 1.5m (5ft) in height. Limited use areas also enable a comparison to be made between IPMS areas and Code of measuring practice areas, and assist conversion from one to the other.
Examples of potential limited use areas include:

| Area difference from internal dominant face | There may be a need to show the difference, if any, in floor area between measurements taken to the internal dominant face and measurements taken to the wall-floor junction. |
| Areas with limited height | In various markets, areas with limited height are identified separately and this height can vary between jurisdictions. |
| Areas with limited natural light | In various jurisdictions, areas with limited natural light in a building may need to be identified separately. |
| Above and below ground | A building is generally composed of floors above ground and floors below ground. For measuring purposes, this distinction may be important in determining the conditions under which the premises may be used in compliance with labour legislation, rules on fitness for habitation or taxation. |

The examples above (with the exception of internal structural walls, columns) are drawn directly from IPMS: Office Buildings. The list is not exhaustive and members may wish to add other areas in particular buildings, such as steps, ramps, disabled access, etc. as appropriate. The adoption of limited use areas will vary according to circumstances but the IPMS figure will remain constant.

**2.6 Interface adjustment**

‘There are many different measurement conventions in use. In some markets floor area is measured to the wall-floor junction, in others it is taken to the midpoint of walls or the external face. Other markets have adopted varying interpretations of the dominant face of an inside finished surface. Against that background of different measurement practices the [IPMS] has adopted internal dominant face to define the extent of IPMS 2 – Office and IPMS 3 – Office.’

[See 4.2.3 Internal dominant face.]
3 Definitions

3.1 The core definitions

IPMS: Office Buildings avoided using the various existing descriptions that had different interpretations between countries and even within a country. Adopting IPMS terms in this PS is mandatory and avoids confusion with the former descriptions and methodology for calculating the area of office floor space.

The generic terms used by IPMS: Office Buildings are:

- IPMS 1, which would equate closely to the former GEA (gross external area)
- IPMS 2 – Office, which would equate closely to the former GIA (gross internal area)
- IPMS 3 – Office, which would equate closely to the former NIA (net internal area), sometimes also referred to as net lettable area, net usable area, carpet area or other descriptions.

The IPMS definitions do not correspond exactly to the former GEA, GIA and NIA definitions. The differences are explained in section 4 of this PS, together with a methodology as to how the IPMS definitions can be compared to the areas in the Code of measuring practice.
4 IPMS as applied in the RICS professional statement

4.1 IPMS 1

4.1.1 Use

‘IPMS 1 is used for measuring the area of a building including external walls. In some markets it can be used by parties for planning purposes or the summary costing of development proposals.’

IPMS 3.1.1
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4.1.2 Definition

‘IPMS 1: The sum of the areas of each floor level of a building measured to the outer perimeter of external construction features and reported on a floor-by-floor basis.
...
Inclusions:
The external area of basement levels is calculated by extending the exterior plane of the perimeter walls at ground floor level downwards, or by estimation of the wall thickness if the extent of the basement differs from the footprint of the building.’

IPMS 3.1.2
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Measurements included but stated separately are:
• covered galleries
• balconies (being external to the main structure of the building) and
• generally accessible rooftop terraces.

These are to be measured to their outer face.

Diagram 1 shows the areas for measurement of IPMS 1 and Diagram 3 shows the plan and section for illustrative purposes.

Exclusions:
‘Measurement for IPMS 1 is not to include the areas of:
• Open light wells or the upper level voids of an atrium
• Open external stairways that are not an integral part of the structure, for example, an open framework fire escape
• Patios and decks at ground level, external car parking, equipment yards, cooling equipment and refuse areas, and other ground level areas that are not fully enclosed are not to be included within IPMS 1, but may be measured and stated separately.’

IPMS 3.1.2
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4.1.3 Comparing IPMS 1 with Code of measuring practice measurements

IPMS 1 compares closely to the gross external area (GEA) measurement under the Code of measuring practice.

In order to make a direct comparison/conversion between/from IPMS 1 and GEA, members should refer to Diagram 1, which shows IPMS 1 and Diagram 2, which shows GEA under the Code of measuring practice. Start with the areas calculated to arrive at IPMS 1, being the floor space coloured on Diagram 1, then deduct the areas of:
• external open sided balcony labelled b
• generally accessible rooftop terraces – these areas should be treated with caution as rooftop terraces would not normally be included in GEA, but it is possible that in some jurisdictions they are included.

To convert the GEA calculated under the Code of measuring practice to arrive at IPMS 1 the steps are reversed.
## Comparison chart: IPMS 1 and GEA (COMP)

<table>
<thead>
<tr>
<th>Diagram/ref</th>
<th>Item</th>
<th>IPMS 1</th>
<th>GEA (COMP)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2 and 3, item a</td>
<td>Covered galleries – being internal and often referred to as internal balconies</td>
<td>Included but stated separately</td>
<td>Included</td>
<td>Stated separately for IPMS 1. While covered galleries, referred to as internal balconies, are stated as included in the Code of measuring practice (COMP) different interpretations may have been applied regarding their inclusion.</td>
</tr>
<tr>
<td>1, 2, and 3, item b</td>
<td>Balconies, often referred to as external open-sided balconies</td>
<td>Included but stated separately</td>
<td>Excluded</td>
<td>Stated separately for IPMS 1. While normally excluded in GEA (COMP), they may be included in some jurisdictions.</td>
</tr>
<tr>
<td>3, item f</td>
<td>Accessible rooftop terraces</td>
<td>Included but may be stated separately</td>
<td>Normally excluded</td>
<td>While normally excluded for GEA (COMP) they may be included in some jurisdictions.</td>
</tr>
<tr>
<td>1, 2 and 3, item c</td>
<td>Open light wells, upper level voids of an atrium</td>
<td>Excluded</td>
<td>Excluded</td>
<td></td>
</tr>
<tr>
<td>1, 2 and 3, item d</td>
<td>Open external stairways not being part of the structure e.g. an open framework fire escape</td>
<td>Excluded</td>
<td>Excluded</td>
<td></td>
</tr>
<tr>
<td>Not shown</td>
<td>Patios, decks at ground level</td>
<td>Excluded</td>
<td>Excluded</td>
<td>May be stated separately for both IPMS 1 and GEA.</td>
</tr>
<tr>
<td>Not shown</td>
<td>External car parking, equipment yards, cooling equipment and refuse areas</td>
<td>Excluded</td>
<td>Excluded</td>
<td>May be stated separately for both IPMS 1 and GEA.</td>
</tr>
<tr>
<td>Not shown</td>
<td>Other ground level areas that are not fully enclosed</td>
<td>Excluded</td>
<td>Excluded</td>
<td>These areas are not to be measured within IPMS 1 but may be measured and stated separately.</td>
</tr>
</tbody>
</table>
Diagram 1: IPMS 1 - upper floor level

- a) Covered gallery
- b) Balcony
- c) Open light well/upper level void of atrium
- d) Open external stairway (not an integral part of the structure)

Hatched areas are to be stated separately.

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Diagram 2: RICS gross external area (GEA)

a) Covered gallery  

b) Balcony  
c) Open light well/upper level void of atrium  
d) Open external stairway (not an integral part of the structure)
Diagram 3: IPMS 1 - plan and section

a) Covered gallery  
b) Balcony  
c) Open light well/upper level void of atrium  
d) Open external stairway (not an integral part of the structure)  
e) Atrium ground level  
f) Roof terrace  
g) Lift/elevator motor room

Hatched areas are to be stated separately.

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4.2 IPMS 2 – Office

4.2.1 Use

‘IPMS 2 – Office is for measuring the interior area and categorising the use of space in an office building. It can be used by parties such as asset managers, brokers, cost consultants, facility managers, occupiers, owners, property managers, researchers and valuers to provide data on the efficient use of space and for benchmarking.’

4.2.2 Definition

‘IPMS 2 – Office: the sum of the areas of each floor level of an office building measured to the internal dominant face [see (4.2.3)] reported on a component-by-component basis for each floor of a building. In many markets, but not universally, this is known as [and is close to] gross internal area [GIA].

Inclusions:
IPMS 2 – Office includes all areas, including internal walls, columns and enclosed walkways or passages between separate buildings, available for direct or indirect use. Covered void areas such as atria are only included at their lowest floor level.’

Measurements included but stated separately:
- covered galleries
- balconies (being external to the main structure of the building)
- generally accessible rooftop terraces.

Exclusions:
- open light wells
- upper level voids of an atrium
- patios and decks at ground floor level not forming part of the building structure
- external car parking
- equipment yards, cooling equipment and refuse areas. These and other ground level areas that are not fully enclosed are not to be included within IPMS 2 – Office but may be stated separately.

4.2.3 Internal dominant face

‘The internal dominant face is the inside finished surface comprising 50% or more of the surface area for each vertical section forming an internal perimeter. A vertical section refers to each part of a window, wall or external construction feature of an office building where the inside finished surface area varies from the inside finished surface area of the adjoining window, wall or external construction feature, ignoring the existence of any columns. If there is no internal dominant face, because no face in a vertical section exceeds 50%, or if the internal dominant face is not vertical, the measurement should be to the wall-floor junction, ignoring skirting boards, cable trunking, heating and cooling units, and pipework.

When determining the internal dominant face of a vertical section the following guidelines should be used:

- skirting boards and decorative elements are not classified as being part of a wall
- the existence of columns is ignored
- window frames and mullions are deemed to form part of the window
- air conditioning units, ducting bulkheads and cornices are ignored.’

In practical terms, members will need to study the internal finished surface of the wall and where any vertical section of the wall includes glazing that extends to >50% of that section then the section will be measured to the internal face of the glazed area. For an illustration see Diagram 4: Internal dominant face.

Where there are vertical sections of the wall that include glazing at <50% of that area then such sections will be measured to the wall-floor junction, ignoring skirting boards, cable trunking, heating and cooling units, and pipework.

Where every vertical section contains glazing amounting to <50% of that section it will not be necessary to divide the wall(s) into vertical sections and measurements can be taken directly to wall-floor junctions, ignoring skirting boards, cable trunking, heating and cooling units, and pipework.

Where secondary or tertiary glazing has been fitted, members will need to decide on the permanence or otherwise of the installation. If the retro-fit glazing has a high degree of permanence then measurement should be taken to its internal face. In other cases measurement should be taken to the original permanent glazing. In either case members should record the nature of the fitment and the reasons for their decision, stating clearly the internal face to which measurements were taken.
Diagram 4: Internal dominant face

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4.2.4 Component areas

<table>
<thead>
<tr>
<th>Component area A</th>
<th>Vertical penetrations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Examples of vertical penetrations include stairs, lift/elevator shafts and ducts but any penetration of less than 0.25m$^2$ [approximately 2.7 sq. ft] is to be disregarded.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component area B</th>
<th>Structural elements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This comprises all structural walls and columns that are to the inside of the internal dominant face.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component area C</th>
<th>Technical services</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Examples of technical services include plant rooms, lift/elevator motor rooms and maintenance rooms.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component area D</th>
<th>Hygiene areas</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Examples of hygiene areas include toilet facilities, cleaners’ cupboards, shower rooms and changing rooms.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component area E</th>
<th>Circulation areas</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This comprises all horizontal circulation areas.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component area F</th>
<th>Amenities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Examples of amenities include cafeterias, day-care facilities, fitness areas and prayer rooms.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component area G</th>
<th>Workspace</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The area available for use by personnel, furniture and equipment for office purposes.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component area H</th>
<th>Other areas</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Examples of other areas include balconies, covered galleries, internal car parking and storage rooms.</td>
</tr>
</tbody>
</table>

‘If a component area is in multifunctional use, it is to be stated according to its principal use. Portions of the component areas may be classified as private, being reserved exclusively for one occupier, or shared, being available for the use of several occupiers.

Floor levels are to be recorded in accordance with local market practice, with the main entrance stated and other floor levels scheduled accordingly.

Areas within component area H not available for direct office-related use may be described as ancillary. They are to be measured, but may also be stated in an alternative way. For example, basement car parking may also be reported by the number of spaces.’

Limited use areas

Limited use areas as defined in Section 2.3 [see 2.5 in this PS] are included in the overall IPMS 2 – Office total area, but must also be identified, measured and stated separately within IPMS reported areas.

IPMS 2 – Office, component areas

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IPMS 2 – Office component areas are set out in Diagram 5.
4.2.5 Comparing IPMS 2 – Office with GIA measurements

IPMS 2 – Office compares closely, but not exactly, to the gross internal area (GIA) measurement under the Code of measuring practice.

In order to make a direct comparison between IPMS 2 – Office and GIA, refer to Diagrams 5 and 6. Diagram 5 shows IPMS 2 – Office with the coloured parts relating to the component areas (see 4.2.4 above). Diagram 6 shows GIA under the Code of measuring practice.

The following steps need to be taken:

Start with the areas calculated to arrive at IPMS 2 – Office, which will include all the component areas in 4.2.4 shown coloured in Diagram 5, then deduct:

- in respect of internal open-sided balconies or galleries, in some jurisdictions and within jurisdictions, different interpretations of the Code of measuring practice may have been adopted regarding their inclusion within GIA. They are labelled ‘H’ at the top of Diagram 5 and ‘a’ in Diagram 6. Members should be aware of the interpretation adopted when making comparisons between IPMS and the Code of measuring practice and should consider whether a deduction for this area should be made to avoid double counting and for consistency.

- balconies (often referred to as external open-sided balconies), labelled ‘H’ at the bottom of Diagram 5 and ‘b’ in Diagram 6. These should be treated with caution as external balconies would not normally be included in GIA, but it is possible that in some jurisdictions they are included.

- in respect of the internal dominant face, the areas within window reveals where the internal dominant face is taken to the glazing.

- generally accessible rooftop terraces. These areas should be treated with caution as rooftop terraces would not normally be included in GIA, but it is possible that in some jurisdictions they are included.

To convert the GIA calculated under the Code of measuring practice to arrive at IPMS 2 – Office the steps are reversed.
## Comparison chart: IPMS 2 – Office and GIA (COMP)

<table>
<thead>
<tr>
<th>Diagram/ref.</th>
<th>Item</th>
<th>IPMS 2 – Office</th>
<th>GIA (COMP)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 and 6</td>
<td>All internal walls, columns and enclosed walkways or passages between separate buildings</td>
<td>Included</td>
<td>Included</td>
<td></td>
</tr>
<tr>
<td>4, 5 and 6</td>
<td>Area occupied by the reveals of windows when measured and assessed as the internal dominant face</td>
<td>Included</td>
<td>Excluded</td>
<td></td>
</tr>
<tr>
<td>5 item H [top], 6 item a</td>
<td>Covered galleries – being internal and often referred to as internal balconies</td>
<td>Included but stated separately</td>
<td>Included/excluded</td>
<td>Different interpretations of the Code of measuring practice (COMP) may apply (see 4.2.5 above) and members should check local practice.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Stated separately for IPMS 2. While covered galleries, referred to as internal open-sided balconies, are stated as included in the COMP, different interpretations may have been applied regarding their inclusion.</td>
</tr>
<tr>
<td>5 item H [bottom], 6 item b</td>
<td>Balconies, often referred to as external open-sided balconies</td>
<td>Included but stated separately</td>
<td>Excluded</td>
<td>Stated separately for IPMS 2. While normally excluded in GIA (COMP), they may be included in some jurisdictions.</td>
</tr>
<tr>
<td>Not shown</td>
<td>Accessible rooftop terraces</td>
<td>Included but may be stated separately</td>
<td>Normally excluded</td>
<td>While normally excluded for GIA (COMP), they may be included in some jurisdictions.</td>
</tr>
<tr>
<td>5 uncoloured area, 6 item c</td>
<td>Open light wells, upper level voids of an atrium</td>
<td>Excluded</td>
<td>Excluded</td>
<td></td>
</tr>
<tr>
<td>5 and 6, item d shown on external flank of wall on both diagrams</td>
<td>Open external stairways not being part of the structure e.g. an open framework fire escape</td>
<td>Excluded</td>
<td>Excluded</td>
<td></td>
</tr>
<tr>
<td>Not shown</td>
<td>Patios, decks at ground level not forming part of the structure</td>
<td>Excluded</td>
<td>Excluded</td>
<td>May be stated separately for both IPMS 2 – Office and GIA.</td>
</tr>
<tr>
<td>Not shown</td>
<td>External car parking, equipment yards, cooling equipment and refuse areas</td>
<td>Excluded</td>
<td>Excluded</td>
<td>May be stated separately for both IPMS 2 – Office and GIA.</td>
</tr>
<tr>
<td>Not shown</td>
<td>Other ground level areas that are not fully enclosed</td>
<td>Excluded</td>
<td>Excluded</td>
<td>These areas are not to be measured within IPMS 2 – Office but may be measured and stated separately.</td>
</tr>
</tbody>
</table>
Diagram 5: IPMS 2 – Office – component areas

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Diagram 6: RICS gross internal area (GIA) *Code of measuring practice*
Sample spreadsheet for IPMS 2 – Office with component areas

### Sample spreadsheet for IPMS 2 – Office

<table>
<thead>
<tr>
<th>Floor</th>
<th>-2</th>
<th>-1</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component Area A - Vertical Penetrations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example – stairs, lift/elevator shafts and ducts</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Component Area B - Structural Elements</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example – structural walls, columns</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>* Limited use areas</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>IPMS total</td>
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<td>0</td>
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<td>0</td>
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<tr>
<td>Component Area C - Technical Services</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example – plant rooms, lift/elevator motor rooms and maintenance rooms</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>* Limited use areas</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>IPMS total</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Component Area D - Hygiene Areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example – toilet facilities, cleaners’ cupboards, shower rooms and changing rooms</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>* Limited use areas</td>
<td>0</td>
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<tr>
<td>IPMS total</td>
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<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>Component Area E - Circulation Areas</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example – all horizontal circulation areas</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>* Limited use areas</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>IPMS total</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Component Area F - Amenities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example – cafeterias, day-care facilities, fitness areas and prayer rooms</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>* Limited use areas</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>IPMS total</td>
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</tr>
</tbody>
</table>

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Sample spreadsheet for IPMS 2 – Office continued

<table>
<thead>
<tr>
<th>Floor</th>
<th>-2</th>
<th>-1</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Component Area G - Workspace</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workspace</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>* Limited use areas</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>IPMS total</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Component Area H - Other Areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example – balconies, covered galleries, internal car parking and storage rooms **</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>* Limited use areas</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>IPMS total</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**TOTAL IPMS 2 – Office**

| Aggregate non-limited use Component Areas | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| * Limited use areas                      | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |
| Total IPMS 2 – Office                    | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0     |

**Additional areas outside IPMS 2 – Office**

| External car parking                      | 0  |
| Decks, patios not forming part of the building structure | 0  |
| Any other areas (example – equipment yards, cooling equipment, refuse areas) | 0  |

* Each limitation, if any, is to be stated separately
** The extent of each use within Component Area H is to be stated separately

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4.3 IPMS 3 – Office

4.3.1 Use

IPMS 3 – Office is for measuring the occupation of floor areas in exclusive use. It can be used by parties such as agents and occupiers, asset managers, facility managers, property managers, researchers and valuers.

IPMS 3 – Office is not directly linked to IPMS 1 or IPMS 2 – Office, neither is it a component area within IPMS 2 – Office. Within an office building there could be a single IPMS 3 – Office area for the entire building or there could be numerous separate IPMS 3 – Office areas.

IPMS 3.3.1

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4.3.2 Definition

IPMS 3 – Office: The floor area available on an exclusive basis to an occupier, but excluding standard facilities and shared circulation areas, and calculated on an occupier-by-occupier or floor-by-floor basis for each building.

Standard facilities are those parts of a building providing shared or common facilities that typically do not change over time, including, for example, stairs, escalators, lifts/elevators and motor rooms, toilets, cleaners’ cupboards, plant rooms, fire refuge areas and maintenance rooms.

Inclusions:

All internal walls and columns within an occupant’s exclusive area are included within IPMS 3 – Office. The floor area is taken to the internal dominant face and, where there is a common wall with an adjacent tenant, to the centre-line of the common wall.

Measurements included but stated separately:

Balconies, covered galleries and rooftop terraces in exclusive use are to be measured to their inner face and their areas stated separately.

Exclusions:

Standard facilities, as defined above.

Standard facilities may vary from floor to floor and will also vary according to how the building is occupied. In the case of a building in single occupation it has to be assumed, hypothetically, that the building is in multiple occupation, floor by floor, in order to determine the extent of the standard facilities. If a floor has two or more occupiers, each is to be measured separately and any shared circulation areas are also excluded.

IPMS 3.3.2

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4.3.3 Comparing IPMS 3 – Office with NIA

IPMS 3 – Office compares to the net internal area (NIA) measurement defined in the Code of measuring practice.

In order to make a direct comparison between IPMS 3 – Office and NIA, members should refer to Diagram 7, which shows IPMS 3 – Office in multi-tenancy occupation and Diagram 8, which shows NIA in multi-tenancy occupation under the Code of measuring practice. Similarly, Diagrams 9 and 10 show IPMS 3 – Office and NIA with a floor in single occupation.

Start with IPMS 3 – Office as defined and shown on Diagrams 7 and 9, which comprises:

- the floor area available on an exclusive basis to an occupier, measured and stated separately, but excluding standard facilities and shared circulation areas.

The area of IPMS 3 – Office includes all internal walls and columns within an occupant’s exclusive area. The floor area is taken to the internal dominant face and, in respect of a common wall with an adjacent tenant, to the centre-line of the common wall. The area of IPMS 3 – Office also includes covered galleries, balconies and rooftop terraces in exclusive use, measured to their inner face, but these areas are also to be stated separately.

Then, to convert to NIA, deduct the following from the IPMS 3 – Office area:

- in respect of the internal dominant face, the areas within window reveals where the internal dominant face is taken to the glazing
- the area of internal structural walls, columns and piers within an occupant’s exclusive area, but not non-structural walls merely subdividing accommodation in single occupancy
- half the area of a wall with an adjacent tenant
- areas with a headroom of less than 1.5m (5ft)
- the area of balconies, often referred to as any external open-sided balcony, shown as ‘b’ in Diagrams 7 and 8 (multi-occupied buildings). These should be treated with caution as external balconies would not normally be included in NIA, but it is possible that in some jurisdictions they are included
- the internal balconies or galleries depicted as ‘a’ in Diagrams 7 and 8 are not in exclusive occupation and are therefore excluded in both IPMS and the Code of measuring practice
- the area of internal open-sided balconies or galleries in the single occupied floors, depicted as ‘a’ in Diagrams 9 and 10 should be treated with caution as different interpretations may have been adopted in and within jurisdictions across the world of the Code of measuring practice in respect of their inclusion in NIA. Members should be aware of the interpretation adopted locally when making comparisons between IPMS and the Code of measuring practice and whether a deduction for this area should be made, to avoid double counting and for consistency
the area of rooftop terraces. These areas should be treated with caution as rooftop terraces would not normally be included in NIA, but it is possible that in some jurisdictions they are included.

To convert the NIA calculated under the Code of measuring practice to arrive at IPMS 3 – Office the steps are reversed. IPMS 3 – Office is a constant measurement and must always be reported as such. The number and extent of areas described as limited use may vary according to circumstances or instructions and must always be identified separately within the IPMS 3 – Office total.
### Comparison chart: IPMS 3 – Office and NIA (COMP)

<table>
<thead>
<tr>
<th>Diagram/ref.</th>
<th>Item</th>
<th>IPMS 3 – Office</th>
<th>NIA (COMP)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>7, 8, 9 and 10</td>
<td>All internal walls and columns</td>
<td>Included</td>
<td>Excluded except for non-structural lightweight partitions, which should be included.</td>
<td>NIA (COMP) also excludes areas having a dimension between opposite faces of less than 0.25m.</td>
</tr>
<tr>
<td>7 and 8</td>
<td>A common wall with an adjacent occupier</td>
<td>The floor area is taken to the centre-line of the common wall, so the area includes half the width of the common wall.</td>
<td>The area excludes half the width of the common wall.</td>
<td>Under NIA (COMP) the measurements are taken to the surface of the common wall with an adjoining occupier.</td>
</tr>
<tr>
<td>Not shown</td>
<td>Enclosed walkways or passages between separate buildings in exclusive occupation</td>
<td>Included</td>
<td>Normally excluded where used solely as access.</td>
<td>For NIA (COMP) these areas, or parts of these areas, will be included if capable of some other beneficial use other than purely access.</td>
</tr>
<tr>
<td>4, 7, 8, 9 and 10</td>
<td>Area occupied by the reveals of windows when measured and assessed as the internal dominant face.</td>
<td>Included</td>
<td>Excluded</td>
<td></td>
</tr>
<tr>
<td>Not shown</td>
<td>Areas less than 1.5m in height</td>
<td>Included but may be stated separately as a limited use area.</td>
<td>Excluded</td>
<td>While excluded under NIA (COMP), some jurisdictions may take a different view.</td>
</tr>
<tr>
<td>5</td>
<td>Standard facilities and shared circulation areas</td>
<td>Excluded</td>
<td>Excluded</td>
<td></td>
</tr>
<tr>
<td>7, 8, 9 and 10, item a in each diagram</td>
<td>Covered galleries, sometimes referred to as internal balconies, used exclusively</td>
<td>Included but stated separately</td>
<td>Included/excluded. Varying interpretations of the Code of measuring practice (COMP) may apply.</td>
<td>Stated separately for IPMS 3 – Office. Members should be aware that different interpretations may have been applied to the inclusion of internal balconies under the COMP, which is silent on this aspect under NIA. Members should check local practice.</td>
</tr>
<tr>
<td>7, 8, 9 and 10, item b in each diagram</td>
<td>External open-sided balconies used exclusively</td>
<td>Included but stated separately</td>
<td>Excluded</td>
<td>Stated separately for IPMS 3 – Office. While normally excluded in NIA (COMP), they may be included in some jurisdictions.</td>
</tr>
<tr>
<td>Not shown</td>
<td>Accessible rooftop terraces</td>
<td>Included but may be stated separately</td>
<td>Normally excluded</td>
<td>While normally excluded for NIA (COMP), they may be included in some jurisdictions.</td>
</tr>
<tr>
<td>7, 8, 9 and 10 uncoloured central areas</td>
<td>Open light wells, upper level voids of an atrium</td>
<td>Excluded</td>
<td>Excluded</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-----------------------------------------------</td>
<td>---------</td>
<td>---------</td>
<td></td>
</tr>
<tr>
<td>7, 8, 9 and 10 shown on external flank of wall on both diagrams</td>
<td>Open external stairways not being part of the structure, e.g. an open framework fire escape</td>
<td>Excluded</td>
<td>Excluded</td>
<td></td>
</tr>
<tr>
<td>Not shown</td>
<td>Patios, decks at ground level not forming part of the structure</td>
<td>Excluded</td>
<td>Excluded</td>
<td></td>
</tr>
<tr>
<td>Not shown</td>
<td>External car parking, equipment yards, cooling equipment and refuse areas</td>
<td>Excluded</td>
<td>Excluded</td>
<td></td>
</tr>
<tr>
<td>Not shown</td>
<td>Other ground level areas that are not fully enclosed</td>
<td>Excluded</td>
<td>Excluded</td>
<td></td>
</tr>
</tbody>
</table>

Not shown

Patios, decks at ground level not forming part of the structure

Excluded

Excluded

May be stated separately for both IPMS 3 – Office and NIA.

Not shown

External car parking, equipment yards, cooling equipment and refuse areas

Excluded

Excluded

May be stated separately for both IPMS 3 – Office and NIA.

Not shown

Other ground level areas that are not fully enclosed

Excluded

Excluded

These areas are not included within IPMS 3 – Office but may be stated separately.
Diagram 7: IPMS 3 – Office – upper floor, multiple occupancy

Hatched areas are to be stated separately.

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Diagram 8: RICS net internal area (NIA) Code of measuring practice upper floor, multi-occupancy
Diagram 9: IPMS 3 – Office – upper floor, single occupancy

Hatched areas are to be stated separately.

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Diagram 10: RICS net internal area (NIA) Code of measuring practice upper floor, single occupancy
4.3.4 Comparing NIA measurements with IPMS 3 – Office

It is recognised that members may wish to compare existing net internal area (NIA) measurements under the Code of measuring practice with IPMS 3 – Office. It is also likely that members will want to convert NIA measurements to measurements for IPMS 3 – Office for dual reporting or for analysing market transactions on a like-for-like basis.

In order to make a direct comparison between NIA under the Code of measuring practice and IPMS 3 – Office, members should refer to Diagrams 11 and 12. Diagram 11 shows NIA in a single tenancy floor of a building. Diagram 12 shows the same occupation measured to IPMS 3 – Office.

Diagram 11, showing NIA, depicts:

- measurements taken to the glazing, indicated on the plan as full-height glazing
- measurements taken to the internal face of the perimeter walls for the remainder of the measurements
- island and engaged columns are excluded, together with ‘unusable space’
- standard building facilities are excluded
- kitchen facilities and a cupboard are included as these are part of the single occupation.

Diagram 12 shows the same occupation measured to IPMS 3 – Office.

The full-height glazing measurements are taken to the glazing, being the internal dominant face as with the NIA measurements.

Additional areas included in IPMS 3 – Office compared to NIA under the Code of measuring practice are:

- the glazing reveals where the vertical sections of these glazed areas amount to >50% of the vertical section
- columns and any associated ‘unusable space’
- recessed lobby.

IPMS 3 – Office is a constant measurement and must always be reported as such. The number and extent of areas described as limited use may vary according to circumstances or instructions and must always be identified separately within the IPMS 3 – Office total.
Diagram 11: RICS NIA Code of measuring practice – upper floor, single occupancy
Diagram 12: IPMS 3 Office – upper floor, single occupancy
4.3.5 Comparing NIA measurements with IPMS 3 – Office in historic buildings converted to office use

Previous examples have centred on modern office buildings. However, in some markets conversions of historic buildings into offices make up a large proportion of office space.

For a period of time it is recognised that members may wish to compare existing net internal area (NIA) measurements under the Code of measuring practice with IPMS 3 – Office in these older buildings, where there is likely to be a higher proportion of internal structural walls due to the nature of the original construction. It is also likely that members will want to convert NIA measurements under the Code of measuring practice to measurements for IPMS 3 – Office for dual reporting or for analysing market transactions on a like-for-like basis.

In order to make a direct comparison between NIA under the Code of measuring practice and IPMS 3 – Office, members should refer to Diagrams 13 and 14.

Diagram 13 shows NIA in a single-tenancy floor of a building and depicts:

- measurements taken to the internal face of the perimeter walls, all structural walls are excluded
- standard building facilities are excluded, that is the toilet areas, corridors and stairwells
- the space taken up by non-structural walls subdividing the accommodation is included.

Diagram 14 shows the same occupation depicted in diagram 13 but measured to IPMS 3 – Office. With regard to the windows in the two offices (two in each office), at the top of diagram 14 the glazing in each of the vertical sections amounts to <50% of the vertical section and so the measurements are taken to the wall-floor junction, being the internal dominant face, ignoring skirting boards, cable trunking, heating and cooling units, and pipework.

Additional inclusions in IPMS 3 – Office compared to NIA under the Code of measuring practice are:

- the area taken up by the glazing reveals in the bay windows in the two offices at the bottom of Diagram 14, regarded as limited use areas as the glazed areas in each of these vertical sections amounts to >50% of the vertical section
- the limited use area on the right hand side of the corridor, although this area will be stated separately
- the office in the centre of the floor, with no natural light, will also be included, as with the NIA measurements, but stated separately as a limited use area
- all internal structural walls, although these may be stated separately as limited use areas when making comparisons with NIA under the Code of measuring practice.
Diagram 13: NIA Code of measuring practice – historic building
Glazing extends to < 50% of the vertical section (see Diagram 4)

Limited use area

Limited use area

Standard building facilities

Glazing extends to > 50% of the vertical section (see Diagram 4)

Diagram 14: IPMS 3 – Office – historic building
4.4 Vehicle parking and ancillary areas within an office site boundary

In order to facilitate and use the building applications below for comparative purposes, whether or not on a cross-border basis, other site facilities will need to be taken into account. The most common is likely to be vehicle parking.

The area taken up by car parking must be measured and the number and type of spaces within that area recorded. The type of spaces, and their size and layout, will largely be determined by the occupiers’ requirements, which may differ from other potential occupiers.

As well as the number of spaces it must be agreed between the service provider and the user what additional information may be required, which may include the total area occupied by vehicle parking spaces and the total area taken up by vehicle parking and circulation, especially for irregularly-shaped sites.

Occupiers may have security or other buildings on site. These should be measured in accordance with the principles in this section 4 and, if measuring to IPMS 2 – Office, recorded under ancillaries on a spreadsheet such as that set out under section 4.2 and in IPMS: Office Buildings.
## 5 Uses

The following table, which is not exhaustive, summarises the uses for each of the IPMS areas in this PS.

<table>
<thead>
<tr>
<th>Definition</th>
<th>Application</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPMS 1 [formerly GEA]</td>
<td>Planning – basis of measurement for planning applications and approvals, site coverage, etc. (together with IPMS 3 – Office).</td>
<td>Section 4.1</td>
</tr>
<tr>
<td>IPMS 2 – Office [formerly GIA]</td>
<td>Costings – a method of measurement for a basis of calculating building costs and reinstatement costs.</td>
<td>Section 4.2</td>
</tr>
</tbody>
</table>
| IPMS 3 – Office [formerly NIA] | Agency and valuation – a basis of measurement for valuation, market analysis and marketing of offices for rental and capital valuation.  
Taxation – a basis of measurement for local taxation purposes, where applicable.  
Property and facilities management – a basis of measurement for calculating, together with component areas within IPMS 2 – Office, service charges in mixed use buildings for the apportionment of occupiers’ liability. | Sections 4.2 and 4.3 |
## Appendix A: Tolerances

### Survey accuracy

<table>
<thead>
<tr>
<th>Survey scale</th>
<th>Accuracy [X,Y]</th>
<th>Final valuation accuracy*</th>
<th>Minimum size of feature to be shown to scale without generalisation</th>
<th>Example of survey</th>
<th>Typical use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:20</td>
<td>+/- 5mm</td>
<td>0.5%</td>
<td>10mm</td>
<td>Engineering surveying and setting out, high accuracy measured building surveying, heritage recording</td>
<td>High accuracy engineering output, structural steel and complex refurbishment, high value commercial property</td>
</tr>
<tr>
<td>1:50</td>
<td>+/- 10</td>
<td>1%</td>
<td>20mm</td>
<td>Engineering surveying and setting out, measured building surveys, high accuracy topographic surveys, determined boundaries, area registration</td>
<td>Building surveys, refurbishment and space planning, demolition and structural engineering, commercial area registration</td>
</tr>
<tr>
<td>1:100</td>
<td>+/- 25mm</td>
<td>2%</td>
<td>50mm</td>
<td>Measured building surveys, low accuracy setting out, net area surveys, valuation surveys</td>
<td>General arrangement drawings for space planning, estate agency, residential valuation, low accuracy commercial development and valuation</td>
</tr>
<tr>
<td>1:200</td>
<td>+/- 50mm</td>
<td>4%</td>
<td>100mm</td>
<td>Low accuracy measured building surveys</td>
<td>Planning, building footprint or detail design</td>
</tr>
</tbody>
</table>

### Notes:

The table above is derived from the RICS guidance note *Measured surveys of land, buildings and utilities* (3rd edition, November 2014), section 2.3 Survey accuracy band table.

*This column is directly related to final ‘valuation accuracy’, which is usually expressed as a ‘%’ deviation from the agreed market value. Of course the final valuation value is an amalgam of numerous and often complex variables of which ‘area’ is but one. However, it is important for this ‘area’ variable to be of a sufficient accuracy to enable the final ‘valuation value’ to be achieved. For example, to achieve a final ‘valuation value’ of +/-1% the relevant ‘area’ needs to be derived from a measured survey of 1:50 or greater.

The survey accuracies shown are industry standard. It is recommended that surveyors and service providers use a form of measured survey specification on agreed output scale and related acceptable detail accuracy. A simplified form of ‘quick specification for measured surveys’ is available as Appendix B in *Measured surveys of land, buildings and utilities* (3rd edition, November 2014).
Appendix B: Further information

For RICS Rules of Conduct, see www.rics.org/uk/regulation1/rules-of-conduct1

For a glossary of terms see section 1 in IPMS: Office Buildings, reproduced in this document.

IPMS: Office Buildings can also be downloaded from www.ipmsc.org

Other technical measurement guidance of a specialist nature is available to RICS members, for example:

- Measured surveys of land, buildings and utilities (3rd edition, 2014), an RICS guidance note forming part of a series of specifications and guidelines to assist those connected with the requesting, purchasing and production of surveys and mapping material

Part 2 – IPMS: Office Buildings

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International Property Measurement Standards Coalition

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Please address publication and copyright matters to contact@ipmsc.org
Welcome to IPMS: Office Buildings

On behalf of the members of the IPMS Coalition, currently 56, we would like to present to you ‘IPMS: Office Buildings’. The project is the first of its kind. For the first time numerous organisations from all over the world have come together to create one shared international standard for property measurement. We have recognised that the past practice of inconsistent measurement standards is unacceptable. Our profession and market places deserve better.

For this reason we have come together to support this process and one shared standard. Starting with a meeting at the World Bank in May 2013, we each signed a Declaration confirming we are ‘committed to promote the implementation of these standards to encourage world markets to accept and adopt IPMS as the primary method of property measurement’.

After the May 2013 meetings we formed an independent Standards Setting Committee (SSC). The SSC includes technical experts from 11 countries and a combined expertise covering 47 different markets. The SSC worked virtually and also gathered three times, in Brussels, Dubai and Orlando.

The generous donation from the Comité de Liaison des Géomètres Européens (CLGE) of the euREAL standard was the basis of their comprehensive, far-reaching and efficient work. Completing a task of this magnitude should take many years. The SSC produced the complete Consultation Draft of IPMS for Offices less than one year later in January 2014. After ending the Exposure Draft consultation period in September 2014, the final ‘IPMS: Office Buildings’ was launched in November 2014.

The Coalition accepts that standard setting is a continuous and dynamic process, and will be listening closely to the market to ensure we capture necessary updates for continued growth and improvement. In addition to preparing further IPMS standards for other building classes (such as residential, industrial and retail), the SSC will also monitor all guidance notes on IPMS to ensure that they are consistent with the principles and intent of IPMS. All local, regional or worldwide approaches will be well documented to allow coordination, expansion and consistency of IPMS guidance whenever required.

In preparing both the earlier consultation documents and this final standard the Coalition wishes to acknowledge the work on the explanatory drawings undertaken by Professor Marc Grief and Johannes Helm of Mainz University of Applied Sciences, and Robert Ash and Tom Pugh of Plowman Craven Limited.

As a Coalition we are also beginning the important work of implementation. We are engaging with governments to adopt IPMS – and we congratulate Dubai as the first government to do so. We are also together, as a Coalition, engaging the many other key market stakeholders. On the ipmsc.org website we have released the list of IPMS Partners – businesses committed to IPMS.

On behalf of the Coalition, the SSC and the numerous participants in the consultation, we are proud to present the IPMS for Office Buildings.

For further information on IPMS please visit the website www.ipmsc.org

Kenneth M. Creighton, Trustee for RICS, Chairman of the Board of Trustees IPMS Coalition
Lisa M. Prats, Trustee for BOMA International, Vice Chair of the Board of Trustees IPMS Coalition
Jean-Yves Pirlot, Trustee for CLGE, Secretary General of the Board of Trustees IPMS Coalition
Introduction

The International Property Measurement Standards Coalition (IPMSC) was formed on 30 May 2013 after meeting at the World Bank in Washington DC. The Coalition, comprising at the date of publication the 56 organisations listed below, aims to bring about the harmonisation of national property measurement standards through the creation and adoption of agreed international standards for the measurement of Buildings.

This document for the measurement of office Buildings is the first prepared by the Coalition’s Standards Setting Committee (SSC). The Coalition members at the date of publication include:

American Society of Farm Managers and Rural Appraisers (ASFMRA)
Appraisal Institute (AI)
Asia Pacific Real Estate Association (APREA)
Asian Association for Investors in Non-listed Real Estate Vehicles (ANREV)
Asociación de Promotores Constructores de España (APCE)
Asociación Española de Análisis de Valor (AEV)
Asociación Española Geómetras Expertos (AEGEX)
Asociación Professional de Sociedades de Valoración (ATASA)
ASTM International
Australian Property Institute (API)
British Property Federation (BPF)
Building Owners and Managers Association of Canada (BOMA Canada)
Building Owners and Managers Association of China (BOMA China)
Building Owners and Managers Association International (BOMA International)
China Institute of Real Estate Appraisers and Agents (CIREA)
Commonwealth Association of Surveying and Land Economy (CASLE)
Consiglio Nazionale Geometrici e Geometri Laureati (CNGeGL)
CoreNet Global
Council of European Geodetic Surveyors (CLGE)
Counselors of Real Estate (CRE)
Cyprus Architects Association (CAA)
Cyprus Association of Civil Engineers (CYACE)
European Council of Real Estate Professions (CEPI)
Federation of Associations of Building Contractors Cyprus (OSEOK)
Gesellschaft für Immobilienwirtschaftliche Forschung e. V. (GIF)
Ghana Institution of Surveyors (GhIS)
Hungarian Real Estate Developers Association (IFK)
HypZert GmbH
INREV
Institute of Real Estate Management (IREM)
International Association of Assessing Officers (IAAO)
International Consortium of Real Estate Associations (ICREA)
International Facility Management Association (IFMA)
International Federation of Surveyors (FIG)
International Monetary Fund (IMF)
International Real Estate Federation (FIABCI)
International Union of Property Owners (UIPI)
International Union of Tenants (IUT)
Italian Real Estate Industry Association (ASSOIMMOBILIARE)
Japan Association of Real Estate Appraisers (JAREA)
Japan Association of Real Estate Counselors (JAREC)
Japan Building Owners and Managers Association (BOMA Japan)
National Society of Professional Surveyors (NSPS)
NP “Cadastral Engineers”
Open Standards Consortium for Real Estate (OSCRE)
Property Council of Australia (PCA)
Property Council New Zealand (PCNZ)
Real Estate Syndicate of Lebanon (REAL)
Real Property Association of Canada (REALpac)
Royal Institution of Chartered Surveyors (RICS)
Secovi-SP (Secovi)
Society of Chartered Surveyors Ireland (SCSI)
South African Property Owners Association (SAPOA)
Technical Chamber of Cyprus (ETEK)
The Appraisal Foundation (TAF)
Union Nationale des Economistes de la Construction (UNTEC)
The growth of cross-border property investment and expansion by global corporate occupiers underpins the demand for transparency against the background of many differing national and local building measurement conventions. The aim of the Coalition is to enable buildings to be measured, and the resulting calculated areas to be provided, on a transparent basis. IPMS will promote market efficiency through greater confidence between investors and occupiers by providing consistent property measurements for transactions and valuations.

Research by the SSC found that transaction and valuation practices vary substantially across markets and this standard is not meant to remove these differences. The SSC has focused only on issues directly related to building measurements and calculated areas within a building. It is acknowledged that different countries use different floor area elements in transaction and valuation practices. IPMS will enable comparison of differing practices by interfacing to a common measurement language.

The SSC prioritised setting a measurement standard for office buildings because of concerns raised by those operating in a high-value global market that does not have a global language. The CLGE Measurement Code for the Floor Area of Buildings, the European Real Estate Area Label (euREAL), provided the starting point. Current terminology used to describe office floor area (such as rentable, usable, leasable, net internal, net lettable and carpet area) means different things in different markets, resulting in confusion for owners and occupiers working internationally. For example, an organisation occupying 10,000m² in one country could find the identical space described as 12,000m² in another, or a company wanting to acquire 50,000ft² in one country might need to define its space requirement as 60,000ft² elsewhere.

IPMS, as an international property measurement standard, has been created through a transparent, detailed and inclusive standard setting process by the SSC. It supports associated financial reporting and valuation standards such as the International Financial Reporting Standards (IFRS) and, in the USA, the Uniform Standards of Professional Appraisal Practice (USPAP). The International Valuation Standards Council (IVSC) supports IPMS, which should be read in conjunction with International Valuation Standards (IVS).

The SSC has spent considerable time researching established standards to ensure that existing intelligence has not been wasted. IPMS is not a hybrid of those standards but does introduce some concepts that may be new to some markets. These concepts have been agreed by the SSC to have a proven track record in the relevant market, although they have been further refined for the purpose of IPMS.

IPMS is a high level standard. Markets that do not have an existing established measurement standard are encouraged to adopt IPMS. The SSC did not identify any existing measurement standard that was suitable for adoption internationally. Therefore, in all developed markets, where existing measurement conventions are established, significant adjustment will be required. We expect IPMS to work initially in parallel with local standards and for a dual reporting basis and interface to be adopted where appropriate. In time we expect IPMS to become the primary basis of measurement across markets.

The SSC considered it unrealistic to create a single standard that would be immediately applicable to all classes of buildings because each has distinctive characteristics that require individual analysis. However the SSC determined that the principles, methodology and measurement practices developed for IPMS will be similar in standards for residential, industrial and retail buildings. These will need to be consistent as another class of building, mixed use, would incorporate several building classes.

In order to resolve confusion with terms that have established definitions we have avoided using existing floor area descriptions such as Gross External Area (GEA), Gross Internal Area (GIA) and Net Internal/Lettable Area (NIA/NLA). These terms are commonly, but inconsistently, used in markets across the world.

The SSC consulted widely to understand the measurement conventions used in different international markets. Our research found there was a need to measure the external area of a building, for planning purposes or the summary costing of development proposals. The SSC decided to refer to this as IPMS 1 and apply it to all classes of building. There was also a requirement to identify and categorise internal areas. This is referred to as IPMS 2 – Office and will assist the property industry to make efficient use of space and benchmarking data. It was also important to measure areas in exclusive occupation for transactions and the SSC created IPMS 3 – Office for this purpose.
IPMS Standards Setting Committee

In July 2013 the IPMSC selected real estate experts from around the world to form its Standards Setting Committee (SSC) and develop global standards for property measurement.

The SSC brings together experts including academics, real estate fund and asset managers, valuers, and specialists in development and construction. The SSC acts independently from the Coalition and its respective members.

The SSC members and co-authors of this standard for office Buildings are:

- Max Crofts FRICS (UK)  Chairman
- Allen Crawford FRICS, FAPI (Australia)  Vice Chairman
- Alexander Aronsohn FRICS (UK)  Executive Secretary to the Committee
- Will Chen MRICS (China)
- Anthony Gebhardt MRICS, RQS (South Africa)
- Prof. Dipl. Ing. Marc Grief, Architect AKH (Germany)
- Kent Gibson BOMA Fellow, CPM (USA)
- Prof. Liu Hongyu (China)
- Luke Mackintosh MRICS, AAPI, F Fin (Australia)
- Howard Morley ANZIV, SNZPI, FREINZ, AAMINZ (New Zealand)
- Frederic Mortier MSc (Belgium)
- Sara Stephens MAI, CRE (USA)
- Peter L. Stevenson CEO (USA)
- Nicholas Stolatis CPM, RPA, LEED AP (USA)
- V. Suresh FRICS (India)
- Koji Tanaka FRICS, ACIArb, RIBA, JIA (Japan)
- Prof. Sr Dr. Ting Kien Hwa FRICS, FRISM, MPEPS, MMIPPM (Malaysia)
- Dr. Piyush Tiwari MRICS (India)
Part 1  
Aim and Scope of the Standards

1.1  
Definitions

**Building**
An independent structure forming part of a Property.

**Coalition**
The Trustees of IPMS, comprising not-for-profit organisations, each with a public interest mandate.

**Component**
One of the main elements into which the Floor Area of a Building can be divided.

**Component Area**
The total Floor Area attributed to one of the Components.

**Floor Area**
The area of a normally horizontal, permanent, load-bearing structure for each level of a Building.

**Internal Dominant Face**
The inside finished surface comprising 50% or more of the surface area for each Vertical Section forming an internal perimeter.

**IPMS**
International Property Measurement Standards.

**IPMSC**
The International Property Measurement Standards Coalition.

**IPMS 1**
The sum of the areas of each floor level of a Building measured to the outer perimeter of external construction features and reported on a floor-by-floor basis.

**IPMS 2 – Office**
The sum of the areas of each floor level of an office Building measured to the Internal Dominant Face and reported on a Component-by-Component basis for each floor of a Building.

**IPMS 3 – Office**
The Floor Area available on an exclusive basis to an occupier, but excluding Standard Facilities, and calculated on an occupier-by-occupier or floor-by-floor basis for each Building.

**Property**
Any real estate asset in the built environment.

**Property Industry**
Comprises Users, Service Providers and Third Parties.

**Service Provider**
Any entity providing real estate advice to a User including, but not limited to, Valuers, surveyors, facility managers, property managers, asset managers, agents and brokers, Space Measurement Professionals, cost consultants, interior designers and architects.

**Space Measurement Professional**
A Service Provider qualified by experience or training to measure Buildings in accordance with IPMS.
Standard Facilities
Those parts of a Building providing shared or common facilities that typically do not change over time, including, for example, stairs, escalators, lifts/elevators and motor rooms, toilets, cleaners’ cupboards, plant rooms, fire refuge areas and maintenance rooms.

Third Party
Any entity other than a User or Service Provider with an interest in property measurement including, but not limited to, governments, banks, other property financing bodies, data analysts and researchers.

User
An owner-occupier, developer, investor, purchaser, vendor, landlord or tenant.

Valuer
A Service Provider with an appropriate professional qualification in valuation or appraisal.

Vertical Section
Each part of a window, wall or external construction feature of an office Building where the inside finished surface area varies from the inside finished surface area of the adjoining window, wall or external construction feature, ignoring the existence of any columns.

1.2 Aim of the Standards
The aim of IPMS is to provide a consistent measurement of Property. IPMS will meet the requirements of Users of Property for consistency in measurement and reporting. Until now the stated area of floor space in identical Buildings has varied considerably between countries, and sometimes within the same country, owing to differing measurement conventions. The measurements can be used for valuation, transaction and benchmarking purposes.

This is equally important for Service Providers and Third Parties, so that data can be used with confidence for property financing, building and facility management, research and other purposes.

1.3 Use of the Standards
IPMS can be used for any purpose agreed between Users, Service Providers and Third Parties.

In some circumstances IPMS can interface between existing measurement standards by providing a common measurement language.
Part 2  Principles of Measurement

2.1  General Principles of Measurement and Calculation

The SSC has adopted the following fundamental principles of measurement and calculation, which apply to all Buildings:

1. The item must be capable of being measured.
2. The measurement must be objectively verifiable.
3. The measurements and calculations must be clearly documented and the following stated:
   - The IPMS standard used, for example, IPMS 1, IPMS 2 – Office or IPMS 3 – Office
   - The method of measurement
   - The unit of measurement
   - The measurement tolerance
   - The date of the measurement.
4. Where an interface is adopted, the reconciliation between IPMS and the standard referred to must be detailed.
5. Inevitably there will be situations not directly covered by IPMS. In these circumstances the principles of IPMS should be extrapolated using a common-sense approach.

2.2  Best Measurement Practice

2.2.1  General

The SSC recommends that all IPMS measurement is supported by CAD (computer-aided design) drawings or BIM (building information modelling) data, but where other drawings are used as a basis for measurement annotated dimensions on drawings should be used in preference to a reliance on scaling alone.

The Service Provider must report how the Floor Area has been established, for example CAD drawings, other drawings or by laser or tape measurement.

Areas for IPMS 1 are to be taken from drawings or on site.
Measurements for IPMS 2 – Office and IPMS 3 – Office are to be taken to the Internal Dominant Face for external walls or otherwise horizontally at wall-floor junctions, ignoring skirting boards, cable trunking, heating and cooling units, and pipework.

Buildings are to be measured individually and reported on a floor-by-floor basis.

2.2.2  Unit of Measurement

Measurements and calculations should be in the unit commonly adopted in the relevant country.

Users and Third Parties may require measurements to be converted, in which case the conversion factor must be stated.
2.2.3 Tolerance

The measurement tolerance is to be specified in the scope of work and report. The Service Provider should provide an appropriate degree of tolerance having regard to the nature of the instruction, the equipment available and conditions at the time of measurement.

2.2.4 Measurement Reporting

Any IPMS area reported to a User, where practical, should be cross-referenced to an appropriately coloured drawing and, if required, to a Component Area spreadsheet when reporting IPMS 2 – Office.

2.3 Limited Use Areas

Service Providers need to be aware that in certain markets there may be areas in Buildings that are incapable of occupation in the light of government regulation or labour legislation. Such areas and their limitations are to be identified, measured and stated separately within IPMS reported areas. For example, if areas are subject to a height restriction, the height should be stated in the reporting document and in the sample spreadsheet.

Users and Third Parties need to be aware that the inclusion of measured areas in IPMS does not necessarily mean that the areas are available for legal occupation or use.

The following examples are not exhaustive:

Example 1 – Area difference from Internal Dominant Face

There may be a need to show the difference, if any, in Floor Area between measurements taken to the Internal Dominant Face and measurements taken to the wall-floor junction.

Example 2 – Areas with limited height

In various markets, areas with limited height are identified separately and this height can vary between jurisdictions.

Example 3 – Areas with limited natural light

In various jurisdictions, areas with limited natural light in a Building may need to be identified separately.

Example 4 – Above and below ground

A Building is generally composed of floors above ground and floors below ground. For measuring purposes, this distinction may be important in determining the conditions under which the premises may be used in compliance with labour legislation, rules on fitness for habitation or taxation.
2.4 Interface Adjustment

The SSC is aware that there are many different measurement conventions in use. In some markets Floor Area is measured to the wall-floor junction, in others it is taken to the midpoint of walls or the external face. Other markets have adopted varying interpretations of the dominant face of an inside finished surface. Against that background of different measurement practices the SSC has adopted **Internal Dominant Face** to define the extent of IPMS 2 – Office and IPMS 3 – Office.

Users and Service Providers wishing to interface with other measurement conventions will need to identify and state the Floor Area variation from IPMS.
Part 3  
IPMS Standards

The IPMS standards are:

- IPMS 1
- IPMS 2 – Office
- IPMS 3 – Office.

3.1  
IPMS 1

3.1.1  
Use
IPMS 1 is used for measuring the area of a Building including external walls. In some markets it can be used by parties for planning purposes or the summary costing of development proposals.

3.1.2  
Definition
IPMS 1: The sum of the areas of each floor level of a Building measured to the outer perimeter of external construction features and reported on a floor-by-floor basis.

The definition of IPMS 1 is the same for all classes of Building.

In many markets, but not universally, this is known as Gross External Area.

Inclusions:
The external area of basement levels is calculated by extending the exterior plane of the perimeter walls at ground floor level downwards, or by estimation of the wall thickness if the extent of the basement differs from the footprint of the Building.

Measurements included but stated separately:
Balconies, covered galleries and generally accessible rooftop terraces are included. They are to be measured to their outer face and their areas are to be stated separately.

Exclusions:
Measurement for IPMS 1 is not to include the area of:

- Open light wells or the upper level voids of an atrium
- Open external stairways that are not an integral part of the structure, for example, an open framework fire escape
- Patios and decks at ground level, external car parking, equipment yards, cooling equipment and refuse areas, and other ground level areas that are not fully enclosed are not to be included within IPMS 1, but may be measured and stated separately.
Diagram 1: IPMS 1 – upper floor level

a) Covered gallery  
b) Balcony  
c) Open light well/upper level void of atrium  
d) Open external stairway (not an integral part of the structure)

Hatched areas are to be stated separately.
Diagram 2: IPMS 1 – plan and section

a) Covered gallery                  e) Atrium ground level
b) Balcony                         f) Roof terrace

c) Open light well/upper level void of atrium  g) Lift/elevator motor room
d) Open external stairway (not an integral part of the structure)

Hatched areas are to be stated separately.
3.2 IPMS 2 – Office

3.2.1 Use

IPMS 2 – Office is for measuring the interior area and categorising the use of space in an office Building. It can be used by parties such as asset managers, brokers, cost consultants, facility managers, occupiers, owners, property managers, researchers and Valuers to provide data on the efficient use of space and for benchmarking.

The Component Areas in IPMS 2 – Office enable Users and Service Providers to make direct floor space comparisons between data from different market practices.

3.2.2 Definition

IPMS 2 – Office: The sum of the areas of each floor level of an office Building measured to the Internal Dominant Face (see 3.2.3) and reported on a Component-by-Component basis for each floor of a Building.

In many markets, but not universally, this is known as Gross Internal Area.

Inclusions:

IPMS 2 – Office includes all areas, including internal walls, columns and enclosed walkways or passages between separate Buildings, available for direct or indirect use. Covered void areas such as atria are only included at their lowest floor level.

Measurements included but stated separately:

Balconies, covered galleries and generally accessible rooftop terraces are included. They are to be measured to their inner face and their areas are to be stated separately (see page 19: Component Area H).

Exclusions:

Measurement for IPMS 2 – Office is not to include the area of:

- Open light wells or the upper level voids of an atrium
- Patios and decks at ground level not forming part of the building structure, external car parking, equipment yards, cooling equipment and refuse areas, and other ground level areas that are not fully enclosed are not to be included within IPMS 2 – Office, but may be measured and stated separately.

3.2.3 Internal Dominant Face

The Internal Dominant Face is the inside finished surface comprising 50% or more of the surface area for each Vertical Section forming an internal perimeter.

A Vertical Section refers to each part of a window, wall or external construction feature of an office Building where the inside finished surface area varies from the inside finished surface area of the adjoining window, wall or external construction feature, ignoring the existence of any columns.
If there is no Internal Dominant Face, because no face in a Vertical Section exceeds 50%, or if the Internal Dominant Face is not vertical, the measurement should be to the wall-floor junction, ignoring skirting boards, cable trunking, heating and cooling units, and pipework.

When determining the Internal Dominant Face of a Vertical Section the following guidelines should be used:

- skirting boards and decorative elements are not classified as being part of a wall
- the existence of columns is ignored
- window frames and mullions are deemed to form part of the window
- air conditioning units, ducting bulkheads and cornices are ignored.
Diagram 3: Internal Dominant Face
IPMS 2 – Office comprises the sum of the following eight Component Areas.

**Component Area A**
**Vertical Penetrations**
Examples of vertical penetrations include stairs, lift/elevator shafts and ducts but any penetration of less than 0.25m² is to be disregarded.

**Component Area B**
**Structural Elements**
This comprises all structural walls and columns that are to the inside of the Internal Dominant Face.

**Component Area C**
**Technical Services**
Examples of technical services include plant rooms, lift/elevator motor rooms and maintenance rooms.

**Component Area D**
**Hygiene Areas**
Examples of hygiene areas include toilet facilities, cleaners’ cupboards, shower rooms and changing rooms.

**Component Area E**
**Circulation Areas**
This comprises all horizontal circulation areas.

**Component Area F**
**Amenities**
Examples of amenities include cafeterias, day-care facilities, fitness areas and prayer rooms.

**Component Area G**
**Workspace**
The area available for use by personnel, furniture and equipment for office purposes.

**Component Area H**
**Other Areas**
Examples of other areas include balconies, covered galleries, internal car parking and storage rooms.

If a Component Area is in multifunctional use, it is to be stated according to its principal use. Portions of the Component Areas may be classified as private, being reserved exclusively for one occupier, or shared, being available for the use of several occupiers.

Floor levels are to be recorded in accordance with local market practice, with the main entrance stated and other floor levels scheduled accordingly.

Areas within Component Area H not available for direct office-related use may be described as ancillary. They are to be measured, but may also be stated in an alternative way. For example, basement car parking may also be reported by the number of spaces.

**Limited Use Areas**
Limited use areas as defined in Section 2.3 are included in the overall IPMS 2 – Office total area, but must also be identified, measured and stated separately within IPMS reported areas.
Diagram 4: IPMS 2 – Office – Component Areas
## Sample spreadsheet for IPMS 2 – Office

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<tr>
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<th>-2</th>
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<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
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<td><strong>Component Area A - Vertical Penetrations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example – stairs, lift/elevator shafts and ducts</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td><strong>Component Area B - Structural Elements</strong></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Example – structural walls, columns</td>
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<tr>
<td>* Limited use areas</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Example – plant rooms, lift/elevator motor rooms and maintenance rooms</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example – toilet facilities, cleaners’ cupboards, shower rooms and changing rooms</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td><strong>Component Area E - Circulation Areas</strong></td>
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<td></td>
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</tr>
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</tr>
<tr>
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<tr>
<td><strong>Component Area F - Amenities</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Example – cafeterias, day-care facilities, fitness areas and prayer rooms</td>
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<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>* Limited use areas</td>
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Sample spreadsheet for IPMS 2 – Office continued

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<th>4</th>
<th>Total</th>
</tr>
</thead>
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<td></td>
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<td>Workspace</td>
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<tr>
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<td><strong>Component Area H - Other Areas</strong></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Example – balconies, covered galleries, internal car parking and storage rooms **</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>* Limited use areas</td>
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<tr>
<td>* Limited use areas</td>
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<tr>
<td><strong>Additional areas outside IPMS 2 – Office</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decks, patios not forming part of the building structure</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any other areas (Example – equipment yards, cooling equipment, refuse areas)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Each limitation, if any, is to be stated separately

** The extent of each use within Component Area H is to be stated separately
3.3 IPMS 3 – Office

3.3.1 Use

IPMS 3 – Office is for measuring the occupation of Floor Areas in exclusive use. It can be used by parties such as agents and occupiers, asset managers, facility managers, property managers, researchers and Valuers.

IPMS 3 – Office is not directly related to IPMS 1 or IPMS 2 – Office, neither is it a Component Area within IPMS 2 – Office. Within an office Building there could be a single IPMS 3 – Office area for the entire Building or there could be numerous separate IPMS 3 – Office areas.

3.3.2 Definition

IPMS 3 – Office: The Floor Area available on an exclusive basis to an occupier, but excluding Standard Facilities and shared circulation areas, and calculated on an occupier-by-occupier or floor-by-floor basis for each Building.

Standard Facilities are those parts of a Building providing shared or common facilities that typically do not change over time, including, for example, stairs, escalators, lifts/elevators and motor rooms, toilets, cleaners’ cupboards, plant rooms, fire refuge areas and maintenance rooms.

Inclusions:

All internal walls and columns within an occupant’s exclusive area are included within IPMS 3 – Office. The Floor Area is taken to the Internal Dominant Face and, where there is a common wall with an adjacent tenant, to the centre-line of the common wall.

Measurements included but stated separately:

Balconies, covered galleries, and rooftop terraces in exclusive use are to be measured to their inner face and their areas stated separately.

Exclusions:

Standard Facilities, as defined above.

Standard Facilities may vary from floor to floor and will also vary according to how the Building is occupied. In the case of a Building in single occupation it has to be assumed, hypothetically, that the Building is in multiple occupation, floor by floor, in order to determine the extent of the Standard Facilities. If a floor has two or more occupiers, each is to be measured separately and any shared circulation areas are also excluded.
Diagram 5: IPMS 3 – Office – upper floor, single occupancy

Hatched areas are to be stated separately.
Diagram 6: IPMS 3 – Office – upper floor, multiple occupancy

Hatched areas are to be stated separately.
The RICS Code of measuring practice (6th edition, 2007) is reproduced here in full. It is now global, with effect from 18 May 2015, and continues to provide guidance to professionals on the measurement of all property types except office buildings, which are covered by the professional statement for the measurement of office buildings.

The information set out within the Code represents best practice and RICS strongly advises its use by members.
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  - Gross External Area .......................................... [6]
  - Gross Internal Area .......................................... [10]
  - Net Internal Area ........................................... [14]
- Technical definitions and diagrams ....................... [20]
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Introduction

Purpose of the Code

The purpose of the Code is to provide succinct, precise definitions to permit the accurate measurement of buildings and land, the calculation of the sizes (areas and volumes) and the description or specification of land and buildings on a common and consistent basis. This may be required for valuation, management, conveyancing, planning, taxation, sale, letting, or acquisition purposes.

The Code is intended for use in the UK only. [With effect from 18 May 2015 this code became globally applicable.]

Status of the Code

This Code is a Guidance Note. It provides advice to Members of the RICS on aspects of the profession. Where procedures are recommended for specific professional tasks, these are intended to embody ‘best practice’, i.e. procedures which in the opinion of the RICS meet a high standard of professional competence.

Members are not required to follow the advice and recommendations contained in the Note.

They should however note the following points. When an allegation of professional negligence is made against a surveyor, the Court is likely to take account of the contents of any relevant Guidance Notes published by the RICS in deciding whether or not the surveyor had acted with reasonable competence.

In the opinion of the RICS, a Member conforming to the practices recommended in this Note should have at least a partial defence to an allegation of negligence by virtue of having followed these practices.

However, Members have the responsibility of deciding when it is appropriate to follow the guidance. If it is followed in an appropriate case, the Member will not be exonerated merely because the recommendations were found in an RICS Guidance Note.

On the other hand, it does not follow that a Member will be adjudged negligent if he has not followed the practices recommended in this Note.

It is for each individual surveyor to decide on the appropriate procedure to follow in any professional task. However, where Members depart from the practice recommended in this Note, they should do so only for good reason. In the event of litigation, the Court may require them to explain why they decided not to adopt the recommended practice.

In addition, Guidance Notes are relevant to professional competence in that each surveyor should be up to date and should have informed himself of Guidance Notes within a reasonable time of their promulgation.

Responsibility to consumers [users of space]

Long established and understood professional responsibilities to clients are matched by statutory obligations to users of property. It is a criminal offence for those involved in estate agency or property development business to give false or misleading information about specified aspects of land (which includes buildings) that are offered for sale. In this context, the Property Misdescriptions Act 1991 and the Property Misdescriptions (Specified Matters) Order 1992 specifically refer to measurements and sizes. Those involved in the sale of residential and commercial property to the general public carry these statutory obligations.

The Property Measurement Group does not consider there to be a conflict between the statutory obligations to users and contractual responsibilities to clients. Users of the Code must not overlook these requirements, which underlie the approach adopted in this sixth edition.

A code of measurement, not a code of valuation

The Code deals only with standard measurement practice. Valuation techniques such as the zoning of shops for comparison purposes; the adoption of different rates of value for units into areas of limited headroom; special uses; particular forms of construction; whether a room is a basement room; and the like do not form part of the Code. These matters, and the value, if any, to be attributed to any particular floor areas because of their special characteristics, are part of the valuers’, estate agents’ or developers’ judgement, having regard to their contractual and statutory obligations.
The Code is distinct from that relating to the Standard Method of Measurement of Building Works (SMM), which is commonly used in the construction industry and published by the Royal Institution of Chartered Surveyors and the Construction Confederation. It is hoped that the Code might be of value to those in the construction industry as a complement to SMM, but in using this Code its primary purpose must be borne in mind.

The Group has not attempted to define everyday words and phrases. To do so is to go beyond the purpose of the Code. The Group is of the view that most weight should be given to common-sense interpretations and less weight to reliance on semantics, when interpreting the meaning of the Code. The Group has however taken the opportunity to incorporate recent judicial guidance on the meaning of ‘usable area’.

The core definitions and marketing issues

In order to make the Code easier to use, especially to those not involved in measuring on a regular basis, the Code contains a hierarchy of definitions. The core definitions are:

- GEA (Gross External Area)
- GIA (Gross Internal Area)
- NIA (Net Internal Area)

It is the advice of the Group that surveyors in their use of the Code, to satisfy their statutory obligations to consumers, rely principally upon NIA when marketing commercial property, or the Residential Agency Guidelines (RAG) when marketing residential property.

The core definitions GEA and GIA are suitable for specialist applications as identified in the Code. GIA can be used for marketing some forms of property, for example industrial. Those using GIA for marketing purposes are advised to take particular care. The Code identifies some of the dangers (for example, GIA 2.12) that could mislead a consumer of space marketed on a GIA basis, should these not be clearly stated.

In its response to a previous draft consultation paper, the Institute of Trading Standards Officers pointed out the line likely to be adopted by the courts. This will be that it does not matter what the professionals may think and understand, it is what the average person thinks and believes that is important in deciding whether statements are misleading or not.

In addition to the core definitions, the Code provides various technical definitions suitable for use in a variety of particular circumstances, and three specialist use definitions for shops, residential and leisure properties.

There may also be accepted conventions for the measurement of specialist types of property. Those concerned with such properties should be aware of any guidance that is provided in the RICS Appraisal and Valuation Standards (the ‘Red Book’) (published by RICS Books).

State separately

Consideration should be given as to whether it would be of assistance to those using the results of measurement calculations to identify separately certain areas which, although included in GIA or NIA, may warrant having a differential value applied.

Valuation Office Agency

The Valuation Office Agency has for many years generally adopted the RICS Code as its basis for measuring property both for rating and council tax. This is subject to the following exceptions:

- Gross External Area and Gross Internal Area – areas with a headroom of less than 1.5m are excluded rather than included.
- Net Internal Area is used for the measurement of industrial and warehouse buildings in some parts of the country. The Agency hopes to be able to complete the substantial work necessary to change entirely to GIA for the planned 2010 rating revaluation.

Accuracy

During preparatory consultations for this sixth edition of the Code, consideration was given to comments received by the Group, both recently and since the time of the publication of the fifth edition, regarding the matter of accuracy.

The Group acknowledges that users of this Code, with the intention that the results are relied on by themselves or others, should all be termed ‘professional measurers’. This is irrespective of the degree of technically sophisticated measuring equipment they might choose to employ so as to report ‘accurately’ on the task at hand. What professional measurers, or their customers, consider to be the required degree of accuracy in terms of the final reported figures is dependent upon the site-specific
conditions and circumstances, across the wide spectrum of sites and properties for which the Code may be applied.

The examples given in the fifth edition were intended to illustrate the extremes of application that might be encountered by the professional measurers as they consider the question of ‘fitness for purpose’, and these examples are still illustrative.

They might pace out the extents of a tarmacadam car park when valuing an application for interim payment for building works undertaken, but use a hand-held laser measuring device or some technically advanced surveying equipment when measuring the net internal area of office space in a building in the City of London. In the first case, dependent upon circumstances, an accuracy requirement of say +/-10% of the total area may be acceptable, whereas in the second case a reported figure of better than +/-1% may be expected, again dependent upon circumstances.

So it is worth identifying the parameters for evaluating the level of accuracy that should be attained:

- What is the purpose of the measurement exercise?
- What is being measured?
- What are the site conditions at the time of measurement?
- What would be the ramifications should the level of accuracy be deemed insufficient for the purpose?

What is beyond question is the need for professional measurers not to mislead, intentionally or unintentionally. The former is obviously the foundation of all professional institutions, not just RICS. The latter is one of risk management, to reduce to a minimum the effect of errors when they occur. In this respect, professional measurers should introduce checking mechanisms to their procedures, processes and equipment as a means of delivering a final product to an agreed level of accuracy. Such mechanisms would include recognised equipment calibration techniques and software check routines, given this electronic age of working and reporting, and an appropriate regime whereby these checks are undertaken and audited.

Given the history of the published Code and the sequence of revisions that have been made since the first publication, it is hoped that these guidelines are sufficiently detailed for the avoidance of misinterpretation and misleading reporting.

There are other RICS publications that consider the topic of accuracy in such detail as deemed applicable to their particular fields of expertise:


In respect of the application of guidelines contained within this Code, the Group considers that the matter of accuracy in measurement exercises be left to practitioners, the professional measurers.

**Metrification**

Users of the Code are advised that they should adopt metric units as the standard system of measurement. Wide acceptance of metrification will greatly assist a smooth change over for users of the Code and consumers of space alike. Where the client requires reference to imperial units these may be provided as supplementary information, e.g. in parenthesis.

The British Standard BS 8888: 2006 Technical Product Specification (for defining, specifying and graphically representing products) recommends the inclusion of a comma rather than a point as a decimal marker, and a space instead of a comma as a thousand separator. While the convention has not been adopted in this Code, users should take care to ensure that this does not conflict with client requirements.

**Introduction and diagrams**

The introduction and diagrams form part of the Code.

**Identity**

This Code is called the ‘RICS Code of Measuring Practice, 6th edition’.

**Enquiries**

Enquiries concerning the Code should be made in the first instance to:

Professional Information Department  
RICS  
12 Great George Street  
Parliament Square  
London  
SW1P 3AD  
UK

Any suggestions for future revisions are welcomed and should be sent to the Valuation Faculty at RICS.
## Applications reference

### Core definitions

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<td>Net Internal Area</td>
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<td>GIA</td>
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<tr>
<td>Shops</td>
<td>NIA</td>
<td>APP 10</td>
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<td>Warehousing – Scotland</td>
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Effective globally from 18 May 2015
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<td>Ceiling Height</td>
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<td>Clear Internal Height</td>
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<td>Cubic Content</td>
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<td>Eaves Height</td>
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<td>Gross Site Area</td>
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<td>Maximum Internal Height</td>
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<td>Plot Ratio</td>
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<td>APP 18</td>
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<td>Raised Floor Height</td>
<td>RFH</td>
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<tr>
<td>Site Area</td>
<td>SA</td>
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<td>Site Depth</td>
<td>SD</td>
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<tr>
<td>Site Frontage</td>
<td>SF</td>
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### Special use definitions – shops

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</tr>
</thead>
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<td>AA</td>
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<td>Built Depth</td>
<td>BD</td>
</tr>
<tr>
<td>Gross Frontage</td>
<td>GF</td>
</tr>
<tr>
<td>Net Frontage</td>
<td>NF</td>
</tr>
<tr>
<td>Retail Area</td>
<td>RA</td>
</tr>
<tr>
<td>Shop Depth</td>
<td>ShD</td>
</tr>
<tr>
<td>Shop Width</td>
<td>SW</td>
</tr>
<tr>
<td>Storage Area</td>
<td>StoA</td>
</tr>
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### Special use definitions – residential

| Special use definitions – residential   | EFA         | APP 22    | [31] |
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| Effective Floor Area                     | EFA         | APP 22    | [31] |
| Net Sales Area                           | NSA         | APP 21    | [31] |
| Residential Agency Guidelines            | RAG         | APP 20    | [29] |
| Residential Values                       | RV          |           |     |
# Core definitions: Gross External Area

## 1.0 Gross External Area (GEA)

Gross External Area is the area of a building measured externally at each floor level.

<table>
<thead>
<tr>
<th>Including</th>
<th>Excluding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perimeter wall thickness and external projections</td>
<td>External open-sided balconies, covered ways and fire escapes</td>
</tr>
<tr>
<td>Areas occupied by internal walls and partitions</td>
<td>Canopies</td>
</tr>
<tr>
<td>Columns, piers, chimney breasts, stairwells, lift-wells, and the like</td>
<td>Open vehicle parking areas, roof terraces, and the like</td>
</tr>
<tr>
<td>Atria and entrance halls, with clear height above, measured at base level only</td>
<td>Voids over or under structural, raked or stepped floors</td>
</tr>
<tr>
<td>Internal balconies</td>
<td>Greenhouses, garden stores, fuel stores, and the like</td>
</tr>
<tr>
<td>Structural, raked or stepped floors are to be treated as a level floor measured horizontally</td>
<td></td>
</tr>
<tr>
<td>Horizontal floors, whether accessible or not, below structural, raked or stepped floors</td>
<td></td>
</tr>
<tr>
<td>Mezzanine areas intended for use with permanent access</td>
<td></td>
</tr>
<tr>
<td>Lift rooms, plant rooms, fuel stores, tank rooms which are housed in a covered structure of a permanent nature, whether or not above the main roof level</td>
<td></td>
</tr>
<tr>
<td>Outbuildings which share at least one wall with the main building</td>
<td></td>
</tr>
<tr>
<td>Loading bays</td>
<td></td>
</tr>
<tr>
<td>Areas with a headroom of less than 1.5m</td>
<td></td>
</tr>
<tr>
<td>Pavement vaults</td>
<td></td>
</tr>
<tr>
<td>Garages</td>
<td></td>
</tr>
<tr>
<td>Conservatories</td>
<td></td>
</tr>
</tbody>
</table>
Applications
[when to use GEA]

APP 1  **Town planning** – GEA is the basis of measurement for planning applications and approvals, i.e. site coverage (including plot ratio)

APP 2  **Rating and council tax** – GEA is the basis of measurement for council tax banding of houses and bungalows [areas with a headroom of less than 1.5m, integral garages and attached structures of inferior quality, e.g. porches, being excluded], and for the rating of warehouses and industrial buildings in Scotland

APP 3  **Building cost estimation** – GEA is the preferred method of measurement for calculating building costs of residential property for insurance purposes

Notes
[how to use GEA]

GEA 1  **Diagrams** – diagrams A and B illustrate how to apply GEA

GEA 2  **Party Walls** – in shared ownership are to be measured to their central line
Diagram A – Example of appropriate dimensions for GEA defined industrial/warehouse end terrace unit
Diagram B – Example of appropriate dimensions for GEA defined terrace house
# Core definitions: Gross Internal Area

## 2.0 Gross Internal Area [GIA]

Gross Internal Area is the area of a building measured to the internal face of the perimeter walls at each floor level (see note GIA 4).

<table>
<thead>
<tr>
<th>Including</th>
<th>Excluding</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Areas occupied by internal walls and partitions</td>
<td>2.18 Perimeter wall thicknesses and external projections</td>
</tr>
<tr>
<td>2.2 Columns, piers, chimney breasts, stairwells, lift-wells, other</td>
<td>2.19 External open-sided balconies, covered ways and fire escapes</td>
</tr>
<tr>
<td>internal projections, vertical ducts, and the like</td>
<td>2.20 Canopies</td>
</tr>
<tr>
<td>2.3 Atria and entrance halls, with clear height above, measured at</td>
<td>2.21 Voids over or under structural, raked or stepped floors</td>
</tr>
<tr>
<td>base level only</td>
<td>2.22 Greenhouses, garden stores, fuel stores, and the like in residential</td>
</tr>
<tr>
<td>2.4 Internal open-sided balconies, walkways, and the like</td>
<td></td>
</tr>
<tr>
<td>2.5 Structural, raked or stepped floors are to be treated as a level</td>
<td></td>
</tr>
<tr>
<td>floor measured horizontally</td>
<td></td>
</tr>
<tr>
<td>2.6 Horizontal floors, with permanent access, below structural, raked</td>
<td></td>
</tr>
<tr>
<td>or stepped floors</td>
<td></td>
</tr>
<tr>
<td>2.7 Corridors of a permanent essential nature (e.g. fire corridors,</td>
<td></td>
</tr>
<tr>
<td>smoke lobbies)</td>
<td></td>
</tr>
<tr>
<td>2.8 Mezzanine floor areas with permanent access</td>
<td></td>
</tr>
<tr>
<td>2.9 Lift rooms, plant rooms, fuel stores, tank rooms which are housed in</td>
<td></td>
</tr>
<tr>
<td>a covered structure of a permanent nature, whether or not above the</td>
<td></td>
</tr>
<tr>
<td>main roof level</td>
<td></td>
</tr>
<tr>
<td>2.10 Service accommodation such as toilets, toilet lobbies, bathrooms,</td>
<td></td>
</tr>
<tr>
<td>showers, changing rooms, cleaners’ rooms, and the like</td>
<td></td>
</tr>
<tr>
<td>2.11 Projection rooms</td>
<td></td>
</tr>
<tr>
<td>2.12 Voids over stairwells and lift shafts on upper floors</td>
<td></td>
</tr>
<tr>
<td>2.13 Loading bays</td>
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<tr>
<td>2.14 Areas with a headroom of less than 1.5m (see APP 6)</td>
<td></td>
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<tr>
<td>2.15 Pavement vaults</td>
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<tr>
<td>2.16 Garages</td>
<td></td>
</tr>
<tr>
<td>2.17 Conservatories</td>
<td></td>
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</tbody>
</table>
Applications
[when to use GIA]

APP 4  Building cost estimation – GIA is a recognised method of measurement for calculating building costs

APP 5  Estate agency and valuation – GIA is a basis of measurement for the marketing and valuation of industrial buildings (including ancillary offices), warehouses, department stores, variety stores and food superstores. For the avoidance of doubt the basis of measurement should be stated

APP 6  Rating – GIA is the basis of measurement in England and Wales for the rating of industrial buildings, warehouses, retail warehouses, department stores, variety stores, food superstores and many specialist classes valued by reference to building cost (areas with a headroom of less than 1.5m being excluded except under stairs)

APP 7  Property management – GIA is a basis of measurement for the calculation of service charges for apportionment of occupiers’ liabilities

APP 8  New homes valuation – a modified version of GIA is an accepted basis of measurement for the valuation and marketing of residential dwellings, particularly in new developments [see NSA on page 32]

Notes
[how to use GIA]

GIA 1  Diagrams – diagrams C and D illustrate how to apply GIA

GIA 2  Separate buildings – GIA excludes the thickness of perimeter walls, but includes the thickness of all internal walls. Therefore, it is necessary to identify what constitutes a separate building

GIA 3  Advice – apart from the applications shown, GIA tends to have specialist valuation applications only. Valuers and surveyors who choose this definition for marketing purposes must have regard to the provisions of the Property Misdescriptions Act 1991 and Property Misdescriptions (Specified Matters) Order 1992 [see Introduction on page 1]

GIA 4  Internal face – means the brick/block work or plaster coat applied to the brick/block work, not the surface of internal linings installed by the occupier

GIA 5  Lift rooms, etc. – the items covered by 2.9 should be included if housed in a roofed structure having the appearance of permanence [e.g. made of brick or similar building material]

GIA 6  Level changes – the presence of steps or a change in floor levels is to be noted

GIA 7  Voids – attention is drawn to the exclusion of voids over atria at upper levels [see 2.3] and the inclusion of voids over stairs, etc. [see 2.12]. Where an atrium-like space is formed to create an entrance feature and this also accommodates a staircase, this does not become a stairwell but remains an atrium measurable at base level only

Effective globally from 18 May 2015
Diagram C – Example of appropriate dimensions for GIA defined industrial/warehouse unit
Diagram D – Example of appropriate dimensions for GIA defined industrial/warehouse unit
Core definitions: Net Internal Area

3.0 Net Internal Area (NIA)

Net Internal Area is the usable area within a building measured to the internal face of the perimeter walls at each floor level. [See note NIA 3]

Including

3.1 Atria with clear height above, measured at base level only [but see 3.11]

3.2 Entrance halls [but see 3.11]

3.3 Notional lift lobbies and notional fire corridors

3.4 Kitchens

3.5 Built-in units, cupboards, and the like occupying usable areas

3.6 Ramps, sloping areas and steps within usable areas

3.7 Areas occupied by ventilation/ heating grilles

3.8 Areas occupied by skirting and perimeter trunking

3.9 Areas occupied by non-structural walls subdividing accommodation in sole occupancy

3.10 Pavement vaults

Excluding

3.11 Those parts of entrance halls, atria, landings and balconies used in common [see 3.1 and 3.2]

3.12 Toilets, toilet lobbies, bathrooms, cleaners’ rooms, and the like

3.13 Lift rooms, plant rooms, tank rooms [other than those of a trade process nature], fuel stores, and the like

3.14 Stairwells, lift-wells and permanent lift lobbies

3.15[a] Corridors and other circulation areas where used in common with other occupiers

3.15[b] Permanent circulation areas, corridors and thresholds/recesses associated with access, but not those parts that are usable areas

3.16 Areas under the control of service or other external authorities including meter cupboards and statutory service supply points

3.17 Internal structural walls, walls enclosing excluded areas, columns, piers, chimney breasts, other projections, vertical ducts, walls separating tenancies and the like

3.18[a] The space occupied by permanent and continuous air-conditioning, heating or cooling apparatus, and ducting in so far as the space it occupies is rendered substantially unusable

3.18[b] The space occupied by permanent, intermittent air-conditioning, heating or cooling apparatus protruding 0.25m or more into the usable area

3.19 Areas with a headroom of less than 1.5m

3.20 Areas rendered substantially unusable by virtue of having a dimension between opposite faces of less than 0.25m. See diagram E

3.21 Vehicle parking areas [the number and type of spaces noted]
### Applications
(when to use NIA)

| APP 9 | Estate agency and valuation – NIA is the basis of measurement for the valuation and marketing of the following types of buildings:  
- Shops and supermarkets;  
- offices; and  
- business use (except those in APP 5) |

| APP 10 | Rating – NIA is the principal basis of measurement for rating of shops including supermarkets, offices, business use (except those in APP 6), and composite hereditaments |

| APP 11 | Property management – NIA is a basis of measurement for the calculation of service charges for apportionment of occupiers’ liability |

### Notes
(how to use NIA)

| NIA 1 | Usable area – an area is usable if it can be used for any sensible purpose in connection with the purposes for which the premises are to be used |

| NIA 2 | Diagrams – diagrams E, F, G, H, K, and L illustrate how to apply NIA |

| NIA 3 | Internal face – means the brick/block work or plaster coat applied to the brick/block work, not the surface of internal linings installed by the occupier |

| NIA 4 | Full-height glazing – where there is full-height glazing, measurements should be taken to the glazing unless elements of the window structure or design render the space substantially unusable. |

| NIA 5 | Advice – when dealing with rent reviews or lease renewals, the exclusions are generally intended to relate to the premises as demised. Unless otherwise indicated by statutory provision or the terms of the lease, it will not normally be appropriate to exclude demised usable space which has been subsequently converted by a tenant to any of the exclusions listed |

| NIA 6 | Level changes – the presence of steps or a change in floor levels is to be noted for valuation and marketing purposes |

| NIA 7 | Restricted headroom – when marketing on an NIA basis it may be appropriate to identify floor areas below full height but above 1.5m |

| NIA 8 | Perimeter trunking – when marketing on an NIA basis reference to the inclusion of perimeter trunking may be appropriate in order not to mislead |

| NIA 9 | Corridors – whether or not a wall defining a corridor is structural or permanent (see 3.15 and 3.17), is a matter of fact. It depends upon the circumstances of the particular case. When marketing on an NIA basis reference to the inclusion of corridors may be appropriate |

Effective globally from 18 May 2015
Diagram E – Example of appropriate dimensions for NIA floor area defined purpose designed offices

- Columns excluded (3.17)
- Stairwell excluded (3.14)
- Full height glazing measurements (NA.4)
- Male
- Female
- Lift
- Lift
- Toilet, stairs and landing facilty excluded (3.12 and 3.14)
- Door recess excluded (3.16b)
- Notional lift lobby included (3.3)
- Column excluded (3.17)
- Kitchen included (3.4)
- Cupboard occupying usable space included (3.5)
- Meter cupboard excluded (3.16)
- Usable space excluded (3.2d)
- < 0.25 metre
Diagram F – Example of appropriate dimensions for NIA floor area defined offices converted from dwelling house
Diagram G – Example of appropriate dimensions for NIA floor areas defined offices (open plan) multiple occupation

Effective globally from 18 May 2015
Diagram H – Net Internal Area (NIA) – Examples of appropriate points from which to measure in respect of various types of heating installations

Continuous

(S.18a)
Black arrow heads denote extents of area dimensions

Oblique View

Heating Ventilation Unit

Vertical Sections

Intermittent

(S.17.86)
Black arrow heads denote extents of area dimensions

Oblique View

≥ 0.25 metre

Vertical Sections
Technical definitions

4.0 Cubic Content (CC)
The product of the Gross Internal Area and the internal height [maximum, clear or average to be specified]

5.0 Clear Internal Height (CIH)
The height between the structural floor surface and the underside of the lowest point of the structural ceiling or roof. See diagram I.

6.0 Eaves Height (EH)
A. Internal
   the height between the floor surface and the underside of the roof covering, supporting purlins or underlining [whichever is lower] at the eaves on the internal wall face
B. External
   the height between the ground surface and the exterior of the roof covering at the eaves on the external wall face ignoring any parapet

7.0 Ceiling Height (CH)
The height between the topmost floor surface and the underside of the ceiling. See diagram J.

8.0 Raised Floor Void (RFV)
The minimum clearance between the structural floor surface and the underside of the raised floor or its supporting structure, where this is materially intrusive. See diagram J.

9.0 Maximum Internal Height (MIH)
The height between the structural floor surface and the underside of the highest point of the structural ceiling or roof. See diagram J.

10.0 Site Area (SA)
The total area of the site within the site title boundaries, measured on a horizontal plane.

11.0 Gross Site Area (GSA)
The Site Area (SA), plus any area of adjoining roads, enclosed by extending the boundaries of the site up to the centre of the road, or 6m out from the frontage, whichever is less.

12.0 Site Depth (SD)
The measurement of a site from front to rear boundaries [maximum, minimum or average, to be specified]

13.0 Building Frontage (BF)
The measurement along the front of building from the outside of external walls or the centre line of party walls.

14.0 Site Frontage (SF)
The measurement of a site along its frontage between two flank boundaries.

15.0 Plot Ratio (PR)
Ratio of Gross External Area to Site Area where Site Area is expressed as one, e.g. 3:1
## Applications
### [when to use]

**APP 12**  
**Estate agency and valuation** – CC is used in the measurement of warehouses

**APP 13**  
**Estate agency and valuation** – CIH is used in the measurement of industrial and warehouse buildings

**APP 14**  
**Estate agency and valuation** – EH, CH, RFV and MIH have general use applications

**APP 15**  
**Land measurement** – SA is a basis of measurement used for calculating land areas

**APP 16**  
**Planning** – SA is a basis for commercial and residential development density computations

**APP 17**  
**Usage** – GSA is for general use, mainly industrial and warehouse buildings

**APP 18**  
**Usage** – SD, BF, SF and PR are for general application

## Notes
### [how to use]

- **CC 1**

- **EH 1**

- **EH 2**

- **CH 1**

### Town planning

- for planning purposes there are particular statutory definitions of cubic content

### Predominant eaves height

- this term may be used where there are small changes in the level of the ground surface at the foot of the outside wall

### Minimum eaves height

- this term may be used where there are significant changes in the level of the ground surface at the foot of the outside wall and materially reduced dimension occurs

### False ceilings

- if a false ceiling is installed, the ceiling height to the underside of the structural ceiling may also be quoted
Diagram I – Illustration of appropriate dimensions for heights defined

External eaves height (6.0 B)

Internal eaves height (6.0 A)

Clear internal height (5.0)

Outside ground level

Internal floor level

Building Section
Diagram J – Illustration of appropriate dimensions for heights defined
Special use definitions: Shops

16.0 Retail Area (RA)
The retail area of the shop is the Net Internal Area (NIA)

<table>
<thead>
<tr>
<th>Including</th>
<th>Excluding</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.1 Storerooms and ancillary accommodation formed by non-structural partitions, the existence of which should be noted</td>
<td>16.3 Storerooms and ancillary accommodation formed by structural partitions</td>
</tr>
<tr>
<td>16.2 Recessed and arcaded areas of shops created by the location and design of the window display frontage</td>
<td>16.4 Display cabinets which should be identified separately</td>
</tr>
</tbody>
</table>

17.0 Storage Area (StoA)
The NIA of a shop which does not form part of the RA (see 16.0) and which is usable exclusively for storage purposes

18.0 Ancillary Areas (AA)
All NIA not included in RA and StoA but capable of beneficial use

19.0 Gross Frontage (GF)
The overall external measurement in a straight line across the front of the building, from the outside of external walls, or the centre line of party walls

20.0 Net Frontage (NF)
The overall external frontage on the shop line measured between the internal face of the external walls, or the internal face of support columns

<table>
<thead>
<tr>
<th>Including</th>
<th>Excluding</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.1 The display window frame and shop entrance</td>
<td>20.2 Recesses, doorways or access to other accommodation</td>
</tr>
</tbody>
</table>

21.0 Shop Width (SW)
Internal width between inside faces of external walls at front of shop or other point of reference

22.0 Shop Depth (SD)
Measurement from the notional display window to the rear of the retail area

<table>
<thead>
<tr>
<th>Including</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.1 The thickness of the display window (or any support structure)</td>
</tr>
</tbody>
</table>

23.0 Built Depth (BD)
Maximum external measurement from front to rear walls of a building at ground level
Applications
[when to use]

APP 19  Estate agency and valuation – RA is the basis of measurement for the valuation and marketing of shops and supermarkets

Notes
[how to use]

RA 1  Diagrams – diagrams E to H, K and L illustrate how to apply NIA; diagrams K and L are specific to shops

RA 2  Zoning – the use of zones when assessing the values of shops is a valuation, not a measurement, technique. Consequently it is not part of this Code. Market custom shall prevail

RA 3  Display window – location for the purpose of assessing GEA, GIA or NIA, in the case of shop property where the display window forms the non-structural “fourth wall”, its location should be assumed to be at the forward-most point at which a shop display window could be installed

AA 1  Ancillary areas – include staff rooms, kitchens, training rooms, offices, and the like

GF 1  Return gross frontage – to be measured in the same way as Gross Frontage

NF 1  Return net frontage – to be measured in the same way as Net Frontage

NF 2  Display windows – the existence and nature of display windows and integral shop fronts are to be noted

SW 1  Shop width – if the shop width is not reasonably constant throughout the whole sales area, then this should be stated and additional measurements may need to be provided

ShD1  Notional display window – the notional display window is to be assumed placed at the forward-most point at which a shop [see RA 3] display window could be installed

ShD2  Shop depth – if the depth is not reasonably constant throughout the whole sales area, then this should be stated and additional measurements may need to be provided

ShD3  Building line – the position of the building line is to be noted
Diagram K – An example of NIA in practice in a retail context
Diagram L – An example of NIA in practice in a retail context
Special use definitions: Residential

24.0 Residential Agency Guidelines (RAG)

Normal market practice is to describe residential property by linear measurement, not on a floor area basis. Where floor areas are adopted they are commonly measured to GIA. It is recommended that these Residential Agency Guidelines be followed for marketing, sale or letting of residential property.

24.1 Measurements should be taken at a point above skirting board level no higher than 1.5m above the floor.

24.2 Where rooms include bays, recesses, alcoves, etc., these should be included or excluded in the measurements quoted, as may be considered reasonable [see RAG 2] in order to give a fair description of the subject room, and the measurement qualified by such words as ‘into bay’ or ‘excluding alcove’ as appropriate.

24.3 Kitchen units, built-in cupboards, wardrobes, and the like occupying usable area should be measured and included as part of the room area but identified separately.

24.4 ‘L’-shaped rooms are to be measured and expressed in two parts.

24.5 For irregular-shaped rooms, either no dimensions should be given or they should be related to a proportionate sketch plan with lined dimensions to give an accurate description of the accommodation.

24.6 In rooms with sloping ceilings measurements should be taken 1.5m above floor level and the presence of the sloping ceiling noted.

24.7 Where there is a stepped change in floor level, each section should be measured and expressed separately.

24.8 Where annexes or additions are of significantly different construction from the main accommodation, or are self-contained, they should be measured and described separately.

24.9 Garage measurements should be taken overall internally between the main wall faces. Projecting piers and door reveals should normally be ignored unless unusually restrictive when the minimum width should also be stated.
Applications
[when to use]

APP 20  **Residential estate agency** – RAG is for marketing, sale and letting of residential property

Notes
[how to use]

RAG 1  **Accuracy** – measurements must be accurate. They must not mislead [see Introduction on page 1]

RAG 2  ‘Reasonable’ defined – the word ‘reasonable’ in 24.2 is defined according to the court’s test [see Introduction: Core definitions on page 2]

RAG 3  **Inclusive measurements** – when measurements are given inclusive of fitted units [see 24.3] descriptions require clarity in order not to mislead

RAG 4  **Basements** – where the floor level of part of a building is below ground level it may be necessary for marketing purposes to call it a basement in order not to mislead. Circumstances vary, but the extent of natural light or restricted internal height are examples of the kind of tests which can be applied
Special use definitions: Residential

25.0 Residential Valuations (RV)
There is no single accepted practice for measurement of residential property for valuation purposes. It is suggested that the guidelines at 24.0 (see page 30) are adopted where linear dimensions are expressed. If reference to property area is required then the alternative approaches are GEA (see APP2 and APP3), GIA (see APP4, APP8), NSA (APP21) or EFA (see APP22). The basis of those areas should be stated in the valuer’s report.

26.0 Net Sales Area (NSA)
Net Sales Area is the GIA of a new or existing residential dwelling, subject to the following conditions:

<table>
<thead>
<tr>
<th>Including</th>
<th>Excluding</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.1 Basements</td>
<td>26.5 Areas with headroom less than 1.5m where the dwelling does not have usable space vertically above</td>
</tr>
<tr>
<td>26.2 Mezzanines</td>
<td>26.6 Garages</td>
</tr>
<tr>
<td>26.3 Galleries</td>
<td>26.7 Conservatories [state separately]</td>
</tr>
<tr>
<td>26.4 Hallways</td>
<td>26.8 External open-sided balconies</td>
</tr>
<tr>
<td></td>
<td>26.9 Greenhouses, garden stores, fuel stores and the like in residential property</td>
</tr>
<tr>
<td></td>
<td>26.10 Terraces</td>
</tr>
</tbody>
</table>

27.0 Effective Floor Area (EFA)
Effective Floor Area is the usable area of the rooms within a building measured to the internal face of the walls of those rooms:

<table>
<thead>
<tr>
<th>Including</th>
<th>Excluding</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.1 Living rooms, dining rooms, bedrooms, kitchens, and the like</td>
<td>27.5 Bathrooms, showers and toilets</td>
</tr>
<tr>
<td>27.2 Areas occupied by fitted cupboards within those rooms</td>
<td>27.6 Stairwells, lift-wells, halls, landings and balconies</td>
</tr>
<tr>
<td>27.3 A floor area which contains a ventilation/heating grille</td>
<td>27.7 Corridors and the like, whether formed by structural walls or not</td>
</tr>
<tr>
<td>27.4 Areas occupied by skirting</td>
<td>27.8 Internal walls whether structural or not, columns, piers, chimney breasts, vertical ducts, and the like</td>
</tr>
<tr>
<td></td>
<td>27.9 Areas with a headroom less than 1.5m</td>
</tr>
<tr>
<td></td>
<td>27.10 Fuel stores, lift rooms, tank rooms, plant rooms, cupboards, etc.</td>
</tr>
<tr>
<td></td>
<td>27.11 Areas under the control of service or other external authorities including meter cupboards and statutory service supply points</td>
</tr>
</tbody>
</table>

Effective globally from 18 May 2015
Applications
[when to use]

APP 21  Net Sales Area – NSA is used in the valuation and marketing of residential dwellings, particularly in new developments

APP 22  Effective Floor Area – EFA is used for council tax banding of flats and maisonettes

Notes
[how to use]

EFA 1  Effective Floor Area – is measured as for NIA assuming all walls are structural
Special use definitions: Leisure

28.0 As stated in the Introduction this is a code of measurement, not valuation. Many properties used for leisure are valued having regard to trading potential. In these circumstances the area of the premises may not be a factor used directly in the assessment of value. There are, however, occasions where the value is assessed, or the price paid is analysed, by reference to area. This will depend on market practice and the judgement of the valuer, estate agent or developer.

29.0 Where the area is considered to be relevant it will be of assistance if a consistent approach is adopted to the basis of measurement. It is recommended that the Gross Internal Area is stated.

30.0 Market practice suggests that it may be helpful for some areas within GIA to be stated separately:

30.1 Internal load-bearing walls and columns
30.2 Fire escape stairs and corridors
30.3 In the measurement of purpose-built multiplex cinemas the floor levels providing raised projection boxes and the stepped flooring providing the auditoria seating
30.4 For restaurant premises the public seating areas, kitchens, cellars and stores

31.0 Where the effective drinking area of licensed premises is required by licensing justices or similar bodies, the trading accommodation area must exclude the area of the servery (bar counters)
Diagram M – Example of appropriate dimensions for GIA floor area defined at each level – Leisure facilities
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