

## IPMS: Residential Buildings – Consultation Document Response Form

**Q1. IPMS: Residential Buildings is intended to improve market transparency for consumers. Does the document achieve this and if not what improvements would you suggest?**

We agree that the principle on which IPMS Residential Buildings is based is the improvement of market transparency for consumers. It fails, however, to achieve this in that major ambiguities and anomalies exist, commented on below, which negate the required transparency. There is also a requirement for consistency across documents (IPMS Offices, IPMS Residential Buildings and any further IPMS standards which may be defined in the future). There are discrepancies in detail between IPMS Residential Buildings and the previous Office document and these should be resolved as soon as possible, in particular, the retrospective insertion of the component areas, to be adopted for IPMS Residential Buildings, into IPMS Office Buildings to eliminate conflicts of definition between the two documents.

**Q2. Which of the standards IPMS 1, IPMS 2 Residential and IPMS 3A, 3B and 3C Residential would be relevant to your markets?**

IPMS 1 and IPMS 2

**Q3. How would you use IPMS 1, IPMS 2 Residential and IPMS 3A, 3B and 3C - Residential within the markets in which you operate?**

IPMS 1 would be mainly used for town planning purposes and for the planimetric representation of the building. It would also be a unit of measurement or representation for the building rights attached to the plot.

IPMS 2 would mainly be used as a reference unit of measurement in valuation, property transactions, renting and building management.

IPMS 3, in its proposed form, would not be used.

**Q4. Within your residential market are there other measurement issues that the IPMS Residential Standard has not mentioned or clarified that you believe should be part of the IPMS Residential Standard?**

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IPMS makes no differentiation between floor areas which are fully usable, i.e. floor areas which can accommodate standing humans and which have sufficient ceiling height to comply with health and safety legislation in the jurisdictions in which they are located. Furthermore, there are minimum floor areas and room dimensions defined in most jurisdictions, below which it would be illegal to use the area as habitable work space. Normally the area must be at of a minimum size before it is considered fit for human habitation. Again IPMS makes no differentiation. Thirdly there are areas which, because of issues such as lack of ventilation, daylight, dampness or contamination, are deemed unfit for human occupation. All of these space should not be classified and treated in the same way as legally habitable areas. If the purpose of the standard is to allow comparison between floor areas internationally, then the areas must be broadly comparable. To treat a 1m square box room as comparable to 1m square of floor space in a large open room space, is misleading. Equally, to treat a floor area whose ceiling height is 1.5m as being equivalent to an area whose ceiling height is 2.1m creates anomalies which detract from the usefulness and transparency of the standard.

**Q5. IPMS: Residential Buildings has adopted Internal Dominant Face in order to maintain consistency across all IPMS Standards. Please advise whether you support this or whether you have an alternative proposal and if so what is it and why? How would you address the resulting inconsistency with IPMS Office Buildings?**

We support the idea of consistency across all IPMS standards.

The concept of Internal Dominant Face introduces anomalies which render the standard less than useful as a basis of comparison between buildings. Because of the existence of these anomalies (outlined later in this document) we recommend that the concept of Internal Dominant Face be abandoned and measurements be taken of actual floor area as measured immediately above skirting board level, i.e. to the inner face of the permanent external structural and weatherproofing envelope of a building. This concept should be used for all IPMS standards, including the already published IPMS Office Buildings. If it is desired to retain the concept of Internal Dominant Face then the anomalies outlined later must be resolved. As will be outlined further in this response, we are convinced that this would prove a very difficult task, if indeed it could be achieved at all.

**Q6. Are the explanatory diagrams and text description for Internal Dominant Face sufficient? If not, what specific diagrams or explanation do you require?**

No. Please see our detailed response, later in this document.

**Q7. Are all other diagrams clear in demonstrating the concepts to which they apply?**

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There are issues with most of the diagrams which we have detailed at the appropriate point in this response form. As a general comment there are cases where the small scale of the diagram makes it difficult to identify the features to which colour coding applies. Thought should be given to rectifying this by increasing the scale, where appropriate, or by inserting detailed insets at a larger scale.

**Q8. IPMS: Residential has adopted Level 0, Level 1 and Level 2 to denote what in some markets would be called ground, first and second floor and in other markets floor 1, 2 and 3. Will this approach be understood in your market?**

We are aware of the different approaches in different cultures to floor level nomenclatures in a building. Provided that it is clearly stated, which system of description is being used, we see no problem.

**Q9. IPMS 1 currently excludes ground floor patios from the total measurement, as the ground floor is not actually part of the building structure, although they can be measured and stated separately. A similar upper floor balcony is however included, as it forms part of the building structure, albeit is stated separately. Do you have any comments on this approach?**

We are happy that balconies should be included, but it is important that a differentiation is made between balcony space and living space. In general it would be useful if there was a fuller and unambiguous definition of these features (balcony, terrace, patio, loggia, etc.) and the differences between them, in the definitions section of the document.

**Q10. Do you have any other comments?**

Please refer to our detailed analysis in the rest of this response form, particularly the issues related to Internal Dominant Face, our preference for using actual measured floor area immediately above skirting level, the differentiation between Fully Usable Floor Space and Restricted Use Space, in particular the issue of minimum ceiling height, and the standardisation of concepts, particularly the specification of Component Areas, across all IPMS standards, i.e. retro-fitting to IPMS Office Buildings. Finally we would ask that the arbitrary and inconsistent nature of IPMS 3 be review in the light of our comments and the issues surrounding legal restrictions, such as party walls and “available and exclusive use” could be addressed.

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Please add further comments to the appropriate section below

### Page 3. Introduction

In the last paragraph of the Introduction (page 4). It states that “the SSC researched global residential markets and identified three different measurement bases....IPMS 3A- Residential, IPMS 3B –Residential and IPMS 3C-Residential”. In a European context we find these three bases to be of little use, but there are other variations, which could be valuable, which are not considered. This issue will be described later in the appropriate part of the response form.

The limitation of the standard to residential buildings only, is unnecessary. The standard is of a nature that can apply to a much wider range of buildings.

### Page 6. 1.1 Definitions

The definitions provided need further clarification, expansion and refinement. The definitions of *Internal Dominant Face* and *Vertical Section*, in particular, are ill-defined and ambiguous. In principle, we disagree with the concept of *Internal Dominant Face* and would prefer a concept based on *Usable Floor Area*, but even if we were to accept the IDF concept, the definition needs a more detailed explanation to make it fully understandable and coherent. We will provide further detail analysis at the appropriate points in the response form.

### Page 7. 1.2 Aim of the Standards

The standard applies to horizontal floor space (plan area) and not to volumes. The aims should be amended to make this clear, for instance, by the insertion of the above sentence.

Otherwise, we agree with the aims but feel that IPMS-Residential fails to meet the key stated aim of providing “consistent measurement of property”.

### Page 7. 1.3 Use of the Standards

OK

### Page 8. 2.1 General Principles of Measurement and Calculation

OK

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### Page 8. 2.2.1 General

OK

### Page 8. 2.2.2 Unit of Measurement

OK

### Page 8. 2.2.3 Tolerance

OK

### Page 8. 2.2.4 Measurement Reporting

OK

### Page 9. 2.3 Limited Use Areas

A range of limitations on use are alluded to, but the document make no effort to deal with these matters. These matters are critical to the aim of allowing “the data to be used with confidence for property financing” and dealing with inconsistencies in measurement practice “between countries and sometimes within the same country”. Unless this matter is dealt with in detail in IPMS-Residential, the standard will be seriously deficient and of limited use. Detailed comment is made on this matter at the appropriate point in the response form.

### Page 9. 2.4 Interface Adjustment

There are serious deficiencies in the concept of Internal Dominant Face. This matter will be referred to again, in detail, at the appropriate point in the response form.

### Page 10. Part 3 IPMS Residential Components

The series of IPMS documents, being prepared (IPMS-Office, IPMS-Resident, etc.), must be consistent between each other. Concepts and definitions regarding components, which appear in one document should also apply to the same type of components in other documents in the series. Any improvements or amendments which have been made in IPMS-Residential, should be retrospectively applied to the same components and concepts in IPMS-Office. This should be done as soon as possible so that the required changes to IPMS-Office can be made before this document is fully promulgated and established.

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In the table of Residential Component Areas (Page 10), component area G should be split into two separate component areas –

Component G1 – Fully Usable Living Space – The area available for exclusive use by residential occupiers, which complies with minimum height and area requirements and is not subject to any restrictions regarding natural lighting, ventilation, underground location or noxious pollutants which might affect its compliance with local or national legislation or rules on fitness for habitation or taxation.

Component G2 – Restricted Use Living Space – The area available for exclusive use by residential occupiers which, although usable for certain purposes, is restricted in its use because of inadequate height, area, lack of natural lighting and ventilation, underground location or other matters under local or national rules or legislation, which might restrict its use and lessen its value.

Component B3 makes no distinction between different categories of internal non-structural walls that may vary in their permanency. For instance, internal walls may be non-structural, but permanent, for legal reasons (joint ownership, party walls, restrictive covenants, etc.), for functional reasons (separating two areas of different use), or because the wall may be owned by none of the adjoining occupiers (separate ownership by a building management company). Walls which fall fully within the ownership of a particular occupier, and where no legal or structural reason exists which could restrict their removal, are potentially Living Space. This reality should be expressed in IPMS-Residential. The lack of this concept cause problems in defining elements under IPMS 3 and will be discussed under that point.

For the above reason, there is a strong argument for splitting B3 into two separate components:

B3A – Internal non-structural walls which are permanent, for reasons of different use of space on either side, or for legal reasons.

B3B - Internal non-structural walls which it is possible to remove and incorporate into adjoining living space.

### Page 12. Diagram 1: IPMS – Residential Apartments – Component Areas

There are a number of minor errors and anomalies in this diagram:

At the bottom of the drawing, a small extension of internal wall projects into external space between the two balconies. The external component is colour coded as Component Area B2. It should be coded as Component Area B1. It is shown correctly in other diagrams in the document.

In some cases the areas under door thresholds are shown as part of the adjoining internal wall component while in other cases they are not. This is inconsistent. A consistent rule should be decided and applied.

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The application of the Internal Dominant Face Rule cannot be understood from the plan, in the absence of internal elevations. For instance, Living Space Area extends into door opens leading onto the balconies at the top of the diagram, but not, in other cases.

In general the scale of the diagrams make it difficult to interpret clearly the status of certain components. This is a more critical problem in later diagrams.

### Page 13. Diagram 2: IPMS – Residential Dwelling – Component Areas

The status of the wall, adjoining the staircase at the top of each of the plans is difficult to interpret. It is colour coded as B2- Internal Structural Element. Its internal nature is not clear from the diagram. We assume that it is a party wall between the dwelling shown and an adjoining dwelling which hasn't been indicated, but it is unclear whether the full thickness of the party wall is shown or just half the thickness. This cause problems when dealing with IPMS3 later. A small area of the adjoining property should be indicated to clarify this matter.

Indications of ground level components (car port, patio, etc.) are shown on the Level 1 (first floor) diagram, but not on the Level 2 diagram. They would also be visible at this level and should be shown.

### Page 14. Sample Spreadsheet for Component Areas

This spreadsheet should be amended to match the component definition changes recommended with regard to G being split into G1 and G2 and with regard to component B2 being split into B2A and B2B.

### Page 16. Part 4 IPMS Standards

IPMS 3 need much more careful definition. This will be discussed in greater detail when dealing with IPMS 3 later in the response form.

#### Page 16. 4.1.1 Use

OK

#### Page 16. 4.1.2 Definition

Under "Measurement Practice" the statement "Areas for IPMS 1 are to be taken from drawings or on site" is problematical. All measurement used in IPMS 1 (or indeed any of the other IPMS standards) should be derived from actual physical measurements. Whether these measurements can be computed directly into areas will depend on the size and complexity of

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the building plan shape. Complex buildings will require the physical measurements to be computed and propagated errors to be distributed, before a drawing can be generated and area values generated. In the case of existing structures, all area values should be based on “as built” measurements, properly measured and computed, with the methodology of derivation fully described as per Section 2.1.3 of this document. Only in the case of buildings not yet constructed, or where the nature of the transaction does not require accuracy of a high level, may areas be derived from design drawings, but this must be clearly stated in the accompanying documentation.

### Page 17. Diagram 3: IPMS 1 – Residential Apartments

OK

### Page 18. Diagram 4: IPMS 1 – Residential Dwellings

Note previous comments relating to the status of the party wall and the depiction of ground level features on higher level plans.

### Page 19. 4.2.1 Use

OK

### Page 19. 4.2.2 Definition

There are issues with the use of Internal Dominant Face which will be dealt with separately under that heading.

Under “Inclusions: IPMS 2- Residential it is not clear what is meant by “available for direct or indirect use”. Can the meaning of this phrase be defined and expanded on?

### Page 20. Diagram 5: IPMS 2 – Residential Apartments

Previous comments regarding the impossibility of understanding the interpretation of the Internal Dominant Face rule, without the inclusion of elevations, apply.

Note that the extent of wall projecting between the two balcony areas at the bottom of the diagram is correctly coded here, unlike in diagram 1, page 12.

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### Page 21. Diagram 6: IPMS 2 – Residential Dwellings

Note previous comments relating to the status of the party wall and the depiction of ground level features on higher level plans.

It should also be noted that the use of the term “Dwelling” in this instance is ambiguous. Apartments are also dwellings. Perhaps “House” would be a better description.

### Page 22. 4.2.3 Internal Dominant Face

The definition in paragraph 1 requires considerable expansion and explanation to make the application of the IDF rule clear in all circumstances. For instance,

there is no guidance given for situations where two sections of wall surface are separated by an internal wall, i.e. occurring in two separate rooms.

There is no guidance given on how areas of the inner face of external walls, which are masked by the abutment of external walls should be treated.

The definition of Vertical Section and its relationship to Internal Dominant Face is unclear. We take the definitions of Internal Dominant Face when read in conjunction with Vertical Section to mean that:

***At any point where horizontal profiles can be taken through the inner finished face of an external wall or weatherproofing component and a change in projection or recession occurs in these profiles, then the wall surface area between floor and ceiling of each such projected or recessed surface should be evaluated with regard to the surface areas above and below between each change of horizontal profile, and the component surface which has the largest surface area, relative to the others, will be taken as the plan location of the floor area to be measured and evaluated.***

Assuming that this is the correct interpretation of the IDF rule there are a multitude of anomalies that can occur in its application. To mention just a few:

What happens if the changes of projection or recession are angled and not at right angles at either side surface, as for instance with an embrasure of a chamfered bay window?

What if the change of profile above the window is also sloped?

What would happen if there were multiple changes of recession or projection in the portion of wall surface being evaluated? Which surface would be accepted as the dominant face? Where multiple faces occur, any one, although the largest relative to any one of the other faces, could be smaller than the sum of the other faces.

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How would Internal Dominant Face be evaluated if the adjoining portions of wall, assessed in plan, were not parallel?

How could IDF deal with areas which were curved in plan, such as semi-circular room projections, apses, etc.?

If wall sections are not vertical, it is impossible to apply the concept of IDF.

Because of these anomalies, and many more, too numerous to mention, it is our opinion that the concept of Internal Dominant Face is fatally flawed and can only be applied in the simplest of building types, i.e. those with rectangular plan shapes and vertical, non-complex, internal wall surfaces. IPMS is intended as a universal international standard, but with the above shortcomings it would be impossible to apply unambiguously and the standard's use as a means of making comparisons across international practice variations and across a wide range of building types would be lost.

**We recommend that the concept of Internal Dominant Face be abandoned and replaced by the concept of Usable Floor Area, measured immediately above skirting board level, to the inner finished face of the external structure and weatherproofing envelope of a building.**

This concept, linked with the definition of Fully Usable Floor Space and Restricted Use Floor Space, would provide a sound basis for the accurate comparison of the floor areas of different building types across markets, particularly in terms of valuation, which is the declared purpose of these standards.

Finally, if this view is rejected and it is decided to continue with the use of IDF then the third paragraph on page 22 need to be reviewed and revised. This paragraph states "if there is no Internal Dominant Face, because no face in a Vertical Section exceed 50%, or if the Internal Dominant Face is not vertical, the measurement should be to the finished surface. This begs the question – to what place on the finished surface should the measurement be taken (see the anomalies outlined above).

### Page 22. Diagram 7 – Internal Dominant Face within Unit 1 Floor plan

It is unclear as to what Diagram 7 on page 22 refers. It would seem, by the context, that it is related to the following section on IPMS 3 – Residential (Occupier), in that it introduces exclusions of floor area which are only relevant in this context. Separating internal partition

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areas, party wall areas, or walls separating Living Space and Common space has no relevance to the general concept of IDF.

### Page 23. Diagram 8 – Internal Dominant Face

This diagrams needs to be extensively modified and expanded to deal with the anomalies outlined above, and to provide clearer and more comprehensive guidance on the application of the IDF rule, that is, if it is decided to maintain the IDF concept.

### Page 24. 4.3.1 Use

OK

### Page 24. 4.3.2 Definition

It can be argued that IPMS 3 is merely specific combinations of the Component Areas and, as such, is superfluous and could be omitted. However, if it is felt necessary to include these examples then a number of issues arise.

The definition of what constitutes the “floor area available on an exclusive basis to an occupier”, needs far more detailed definition.

Are internal structural walls, external walls, or walls separating separate legal ownerships (party walls), walls separating non-compatible functions, or ducts penetrating more than one area of ownership vertically, “available on an exclusive basis to an occupier”? In an apartment block they certainly are not. All of these features are of essential use to other occupiers and no exclusivity can be claimed.

To say that certain floor area is “available” indicates a right, on the part of the occupier to make use of the floor area occupied by these features and in most, if not all cases, the occupier has no such right. In apartments, the only floor area to which an occupier has “availability on an exclusive basis” is the Living Space (Component Area G, or G1 and G2 on the basis of our recommendation), and such examples of Component Area B3 (B3B as defined above) that can be removed by the occupier, if he wishes. In the case of houses, exclusivity exists, except in the case of party walls with adjoining properties, but “availability” may be constrained by planning and bye-law controls imposed by government.

### Page 25. Diagram 9: IPMS 3A – Residential Apartment

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With regard to the diagrams for IPMS 3A, IPMS 3B and IPMS 3C, none of these conform to a model that we can recognise in European practice. In many jurisdictions, party walls between ownerships in apartment blocks are owned by a management company, which also owns and maintains the external and internal structure of the building. The individual owner or occupier has no availability or legal right to these features and is precluded from interfering with them. In cases where party walls are jointly owned by the owners on either side of the wall, for instance, in the case of semi-detached or terraced houses, the party walls are owned in common, i.e. each owner has full ownership of all the wall, jointly with his neighbour, and does not have exclusive or separate ownership of any part of the wall.

Standard measurement specifications to meet these circumstances might be useful. Three possibilities could be envisaged:

1. Fully Usable Floor Area – The actual fully usable floor area available exclusively to an occupier, i.e. Component Area G1 Living Space – not including restricted floor area G2, or any of the other component areas of the building.
2. Combined Usable Floor Area – Component Areas G1 Fully Usable Floor Space and G2 Restricted Floor Space combined.
3. Combined Usable and Potentially Usable Floor Area – Component Areas G1, G3 and B2B combined, where increased floor space could be generated by the removal of walls/partitions fully in the ownership of the occupier, whose removal would not be constrained by legal, functional or structural reasons.

### Page 26. Diagram 10: IPMS 3A – Residential Dwellings

see comments above

### Page 27. Diagram 11: IPMS 3B – Residential Apartment

see comments above

### Page 28. Diagram 12: IPMS 3B – Residential Dwellings

see previous comments

### Page 29. Diagram 13: IPMS 3C – Residential Apartment

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see previous comments.

### Page 30. Diagram 14: IPMS 3C – Residential Dwellings

see previous comments.