MEASURING CODE

Applicable to Commission buildings in Brussels

FINAL VERSION

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1. INTRODUCTION

This measuring code concerns the Commission’s building stock in Brussels.

Systematic consideration of the code ensures uniformity in the system for measuring buildings with very different architecture and allows effectiveness indicators\(^1\) to be compared between them when assessing property investments.

The measuring code is used primarily in the following cases:

- reflection on the Commission’s property strategy;
- contractual negotiation led by the Commission (sale, rental, usufruct, long-term lease…) to set out precisely the subject-matter of the contract;
- space allowances for DGs and Services for the housing of staff;
- estimates and tenders for maintenance or carrying out works.

The code is a vital tool for those negotiating and managing Commission property projects.

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\(^1\) In particular the ratios between different types of area.
As a general rule, the Commission applies "DIN Standards 277-1 and 277-2"\(^2\) when measuring buildings. This measuring code supplements "DIN Standard 277" by specifying how the standard is to be applied and by pointing out exceptions and derogations which concern Commission buildings in particular.

Where "DIN Standard 277" is not sufficiently precise for the Commission’s needs, the code is guided by broad knowledge standards, rules and uses which are applied regularly by surveyors and the criteria followed to date by the Commission to calculate areas. In addition to "DIN Standard 277", the following documents have been used a reference for the code:

- "Belgian Standard NBN 006"
  Author: Régie des Bâtiments [Buildings Agency] (Belgian authorities)
  Published in May 1983

- "ISO 9836"
  Author: International Standard
  Published in 1992

- "NEN 2580"
  Author: Nederlandse Normalisatie-Institut [Netherlands Standardization Institute]
  Published in May 1997

- "Office Buildings Measuring Code"
  Author: Union des géomètres experts de Bruxelles [Brussels Union of Surveyors] (UGEB) in collaboration with the Union Belge des Géomètres [Belgian Union of Surveyors] (UBG)
  Currently being drafted

- "Belgian Measuring Code"
  Author: Association Belgo-Luxembourgeoise des Chartered Surveyors [Belgo-Luxembourg Association of Chartered Surveyors]
  Published in August 2000

- "Manual of Standard Building Specifications in Luxembourg"
  Also known as the "Yellow Book"
  Author: OIL [Office for Infrastructure and Logistics in Luxembourg]
  Published in December 2005

- "OIL Manual"
  Author: OIL
  Document for internal use by institutions in Luxembourg

- "Housing conditions Manual"
  Author: OIB [Office for Infrastructure and Logistics in Brussels]
  Document for internal use by institutions in Brussels and Luxembourg
  Currently being drafted by OIB/OIL

Every citation from a document mentioned above and referred to in the code is followed by a notation in brackets stating the reference document.

\(^2\) Author: Deutsches Institut für Normung e.V. [German Institute for Standardization] published 1 June 1987 – revised 2005-02.
2. **REFERENCE AREAS**

The measuring code sets out definitions and rules for measuring Commission buildings used as offices in a consistent and coherent way. The code can be applied to other building types (industrial, logistics …) if they are not subject to specific measuring.

Office buildings are made up of enclosed spaces and are heat insulated and communally lit, ventilated and air-conditioned. They are subdivided into different main occupancy levels which are also known as "floors". They usually contain one or more basement levels.

In practice, two measuring techniques are used:
- **on-site measuring**: concerns the plotting of an existing building by a professional surveyor, using suitable measuring instruments;
- **measuring off plan**: concerns the graphic measuring from "as built" documents and computer files.

Despite the universal applicability of the code, exceptional circumstances cannot be ruled out, for which the measuring method will be determined in agreement with the parties concerned on the basis of architectonic, technical and legal criteria.

In the standards and reference documents cited in page 4 and in common practice, varying names are used to identify types of area. The code sets out the following principal areas:

- two reference areas measured in accordance with "**DIN Standard 277**" and valid for the Commission’s building stock in Belgium and Luxembourg:
  
  - gross floor area **GFA** (called BGF in the standard)
  - net floor area **NFA** (called NGF in the standard)

- an intermediate area valid solely in Belgium:
  
  - property area **PA** (set out in Annex E)

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3 In Belgium, architectural plans are usually encoded using the computer program AutoCAD (or similar).
3. RULES ON MEASUREMENT

3.1 General principles applicable to all areas

- **OCCUPANCY**
  In the case of private occupancy of the whole building, the whole area is available to the occupant.
  If the use of the building is shared between several occupants, the area of each occupant is composed of the area restricted to the occupant’s legally private area to which a share of the common areas is added.
  The criteria for the exceptions / further details set out below must always be observed, irrespective of whether occupancy is private or shared.

- **UNIT**
  The standard unit for measuring floor area is the square metre (m²) ("DIN Standard 277" part I, 3.1.3).
  The total area of the building is calculated by adding the areas of each floor. It is rounded to the next square metre.

- **MEASURING**
  The floor area is always measured at the level of the finished floor, even in the case of a non-vertical façade or a sloping roof.
  The area of ramps, sloping floors and flights of stairs is determined by measuring their vertical projection on a horizontal plane ("DIN Standard 277" part I, 3.1.2).
  The area of each part measured between two floor levels is considered to form part of the closest floor.

- **CRITERIA FOR EXCEPTIONS / FURTHER DETAILS TO THE STANDARD**
  Consideration has been given to the following criteria to include or exclude features of polyline measuring:

  1. The *architectonic criterion* analyses conformity between the feature and the definition set out in this code;
  2. The *technical criterion* analyses the relationship between the feature and the structure of the building;
  3. The *legal criterion* analyses the possibility for the occupier to take full advantage of the feature and to prevent third parties having access.

- **AREA ABOVE GROUND AND BELOW GROUND**
  The areas above and below ground are measured separately.
  Definitions and adherence criteria are detailed in Annex C (page 14).

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4 In rural areas, the area of a plot of land is measured in ares (1 are = 100 m²). An are is subdivided into 100 centiares (1 ca = 1 m²). A hectare is composed of 100 ares and amounts to 10 000 m². References to these units can be found in the root of title of official records.
5 Ramp, stairs, intermediate landing, etc…
6 Or is divided equally between two floors if it is situated midway (ramps or landings, for example).
7 A polyline is a succession of consecutive straight or curved segments, open or closed on itself. A closed polyline is made of one or more polygons which can be concave or convex. A polygon may contain another polygon.
The area of spaces which have not been allocated are regarded as useful areas if those spaces are situated above ground. They are regarded as residual areas if the spaces are situated below ground.

- **Types of Corridor**
  The present code distinguishes between three types of corridor:

  1. **Primary corridors** include the evacuation route, including security airlock systems and satisfy conditions set out in the rules and requirements for fire prevention currently in force. In particular, they are enclosed by fire-resistant walls. Their area is taken into account in the "circulation area" (CA);

  2. **Secondary corridors** do not form part of the evacuation route and are delimited by permanent construction features (concrete, stonework, plasterboard partitions …). Their area is taken into account in the "circulation area" (CA).

  3. **Tertiary corridors**, which are delimited by features which can be dismantled (movable partitions, cupboards, screening panels, furniture …). Their area is taken into account in the office area (UA2B) or the archives area (UA2A), depending on the case.

- **Intermediate technical floors**
  Intermediate technical floors are situated between two office levels. Their area is taken into account in "technical areas" (TA), including their circulation areas.
3.2 Gross floor area

- **Definition**

The *gross floor area* (GFA) relates to the outer edge of construction features\(^8\) delimiting the building, including coatings ("DIN Standard 277" part I - 2.2.1), measured at floor level.

The GFA extends to the physical limits of the building which mark the separation between the building and its external environment. It is the area known as "extra-muros".

- **Measuring Method**

The GFA of a level is the area of the closed polyline surrounding the floor. Its sides are formed of:
- exterior faces of façade features delimiting the edge of enclosed spaces on the level under consideration
- the line of party walls between different buildings
- the line of construction features separating possible co-owners

- **Exceptions and/or Further Details to DIN Standard 277**

In basements, where it is not possible to measure the actual thickness of walls underground, the agreed view is that the outline of the polyline of the GFA is within the outer wall and runs along the visible face of the wall.

In the case of an atrium\(^9\), the GFA includes solely the lower floor area (area where people walk) and not the area of virtual floors\(^10\) (plan 5.1 A).

With regard to covered areas/passages which are open on a maximum of two sides, the GFA includes the area delimited by the vertical projection of the covering part (plans 5.1 B, C and D).

With regard to open areas such as courtyards and patios, the GFA covers the whole area if it is \(< 4\) \(\text{m}^2\) (plan 5.2).

The GFA does not take account of alcoves, cantilevers and decorative features of façades where the area projected vertically is \(< 0.5\) \(\text{m}^2\) (see plans 5.3 A and B). The code applies the same rules to balconies\(^11\) as it does to alcoves and cantilevers.

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\(^8\) Construction features are all the elements making up the shell of the building (masonry, reinforced concrete, steel structures) and fixed partitions (in blockwork or plasterboard)

\(^9\) An atrium is a covered and air-conditioned area surrounded by the walls of the building. It is usually several storeys high. A patio is an open area which is completely surrounded by parts of the building.

\(^10\) Virtual floors can be found in an atrium where the headroom is greater than one storey.

\(^11\) Balconies are spaces which are open on at least one side and fixed against the façade as an overhang or built into it. Balconies are accessible to occupants of the building and have railings around the edges.
Moreover, the GFA **does not include** the area of:
- access routes\(^{12}\)
- gardens
- external stairs and escalators
- unusable roof voids\(^{13}\)
- metal walkways used for maintaining the building\(^{14}\)
- roof platforms\(^{15}\)
- pitched roofs

The GFA **does include** the area of:
- terraces\(^{16}\)
- usable roof voids
- external technical areas serving the building
- walkways or passages between two parts of the building

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**COMPARISON WITH OTHER STANDARDS**

**ISO 9836**
The GFA measured in accordance with the code is the same as the "Total floor area" set out in the ISO standard.
The ISO standard distinguishes between closed areas and partially open areas (balconies, terraces). It recommends that a separate calculation is made for areas of different heights (halls, atriums, lecture theatres, restaurants …).

**NEN 2580**
The GFA measured in accordance with the code is the same as the "Bruto-vloeroppervlakte" set out in the NEN standard.

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\(^{12}\) Access routes are open areas allowing access to the building.

\(^{13}\) A roof void is declared unusable if there is no floor, if the structure obstructs the space, if the height is too low (<1.60 m), if access is very difficult (access hatch).

\(^{14}\) Unless the walkway leads to internal areas.

\(^{15}\) The roof of the building is composed of:
- terraces: areas which are accessible to occupants of the building, the surface of which where people walk is of a hard material which is resistant to piercing.
- roof platforms: areas which are accessible solely for maintaining the building and which are covered by a watertight layer (roofing), or automatically protected (aluminium), or filled (shingle)
- pitched roofs: areas which are sloping and inaccessible.

\(^{16}\) The Parliament’s GFA does not include terraces.
3.3 Net floor area

- **Definition**

  The *net floor area* (NFA) relates to the internal edge\(^\text{17}\) of all construction features ("DIN Standard 277" part I - 2.2.3), measured at floor level.

  The NFA constitutes the floor area which can actually be used by the occupant of the building. It is the area known as "intra-muros", excluding all construction features.

- **Measuring method**

  The NFA of a level is the sum of the areas of polygons whose edges are formed by the visible internal faces of construction features: façade walls, party walls, internal walls and screens, columns and fixed partitions.

- **Exceptions and/or further details to DIN Standard 277**

  When measuring, account need not be taken of features whose influence on the NFA may be regarded as insignificant, namely:
  - vertical penetrations\(^\text{18}\) < 1 m\(^2\) (plans 5.4 A and B)
  - alcoves, cantilevers and decorative features of façades where the area projected vertically is < 0.5 m\(^2\) (plans 5.3 C and D)

  The NFA does not include the area of:
  - unusable roof voids\(^\text{19,20}\)
  - lift wells\(^\text{21}\)
  - metal walkways and stairs used for maintaining the building
  - columns and pillars with a diameter of > 0.1 m\(^2\), construction features

  The NFA does include the area of:
  - covered passages which are enclosed along the side
  - usable roof voids
  - maintenance areas
  - technical areas serving the building
  - walkways between two parts of the building
  - parts of the floor under heater casings\(^\text{22}\)
  - parts of the floor with headroom < 1.60 m\(^2\)\(^\text{23}\).

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\(^{17}\) The internal edge of construction features is the edge which can be directly seen and measured by the occupants of the building.

\(^{18}\) Vertical penetrations are chimneys, shafts and technical drillings. Stairs and lifts are not regarded as vertical penetrations.

\(^{19}\) Roof voids form the part of the building situated directly under the roof.

\(^{20}\) A roof void is declared unusable if there is no floor, if the structure obstructs the space, if the height is too low (<1.60 m), if access is very difficult (access hatch).

\(^{21}\) Except on the ground floor or another main level served.

\(^{22}\) This area is regarded as residual area (RA). The European Parliament regards this area as construction area.

\(^{23}\) This area is regarded as residual area (RA).
The NFA is formed of the following types of area:

(a) the usable area UA
(b) the service area SA
(c) the circulation area CA
(d) the residual area RA

Division into sub-areas can be found in Annex B page 13, and their composition in Annex D page 15.

➢ COMPARISON WITH OTHER STANDARDS

ISO 9836
The standard introduces two concepts for measuring internal area: the area known as "Intra-muros area" and the area known as "Net floor area".

This code does not take account of the "Intra-muros area". This is equivalent to the "Total floor area" when the area of external walls is subtracted.

However, the definition and the division of the NFA is the same as that for the "Net floor area" set out in the ISO standard, which mentions "Usable Area", "Service area" and "Circulation area".

NEN 2580
The NFA in accordance with the code is the same as the "Netto-vloeroppervlakte", with the exception of internal areas with headroom of less than 1.50 m. The standard does not take account of spaces <1.50 m, whereas the code classifies these spaces under the category of residual areas.

Moreover, the code works on the assumption that the areas adjoining the building which are covered, but not enclosed on three sides do not form part of the NFA, in contrast to NEN 2580.
4. ANNEXES

4.1 Annex A: Indicators

*The knowledge of areas lies at the heart of calculating indicators. These may be regarded as "decision-making aids" which allow a comparison between the areas of different buildings to be made and the quality of the buildings offered to be assessed.*

- **INDICATORS \( \alpha \) AND \( \beta \)**
  (DETERMINE THE EFFICIENCY OF THE AREAS OF THE BUILDING)

  \[
  \alpha = \frac{\text{NFA}}{\text{GFA}}
  \]

  The indicator \( \alpha \) of a building measures the proportion of net floor area in relation to gross floor area. It determines the impact of the building’s structure and construction features in general.
  The building is more efficient the closer \( \alpha \) is to the value of 1.

  \[
  \beta = \frac{\text{UA}_{\text{above ground}}}{\text{NFA}_{\text{above ground}}}
  \]

  The indicator \( \beta \) of a building measures the proportion of usable area above ground in relation to the net floor area above ground.
  It shows the effect/impact of circulation, technical facilities and residual areas.
  The higher \( \beta \) is, the more efficient the building.

- **INDICATOR \( \gamma \)**

  \[
  \gamma = \frac{A_{\text{office}}}{\text{NFA}_{\text{above ground}}}
  \]

  The indicator \( \gamma \) of a building measures the proportion of office area in relation to the net floor area above ground.
  The higher \( \gamma \) is, the greater the accommodation capacity of the building.
4.2 Annex B: Division of areas in accordance with DIN 277
Valid above and below ground
### 4.3 Annex C: Determining the area above ground / below ground

A building is composed of volumes above and below ground. The same is true for floors, and therefore their areas.

It is important to make a distinction between above ground and below ground because the possibility of housing permanent workstations depends *inter alia* on health and safety conditions and daylight.

However, no standard gives an exact definition of the conditions which must be satisfied in order for a floor to be declared as "below ground" or "above ground" although, depending on the architecture of the building and the profile of walkways, the distinction is not apparent.

This code proposes a method to make that distinction.

**Method:**
1. Divide each floor into adjoining areas and consider each area as isolated and independent.
2. Determine whether the area under consideration receives sufficient daylight and ventilation to enable office work.
3. Plot the profile of the ground or the pavement along the length of each façade and attribute conventionally the level 0.00 to the middle point of that profile along the pavement.
4. Plot the line of floors if it is not the same as the profile of the ground or the pavement along the perimeter of the building.

There are two possible scenarios:

**A. A single façade along the pavement (plan 5.5 A)**
   In this case, a floor situated between levels 0.00 and -1.50 m is regarded to be above ground. Floors at a level below -1.50 m are regarded to be below ground.

**B. Several façades along the pavement (plan 5.5 B)**
   In this case, the position of floors is examined in relation to each façade in isolation. If certain floors may be regarded as both above and below ground in accordance with criterion A, each floor area is examined individually and is declared as being above ground if it receives sufficient daylight and ventilation to enable office work.

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24 Health and safety conditions are laid down in Belgium in the RGPT [General Regulations on Industrial Safety].
25 See the Commission’s Housing Conditions Manual.
4.4 Annex D: Definition of sub-areas

**Usable Area (UA)**

This constitutes the spaces naturally used for activities by occupants. It applies to spaces above and below ground. It comprises the following sub-areas:

- **Social activities area (UA 1)**
  This constitutes spaces for relaxation and social needs. It includes:
  - reception and waiting areas, including medical facilities
  - club/foyer
  - cocktail lounges and reception areas
  - crèches and childcare facilities
  - rest rooms and "well being" spaces
  - areas for cultural activities (cultural circles)
  - floor kitchenettes
  - small cafés and drinks dispensers
  - cafeterias, snack bars and restaurants with the exception of kitchens (UA 3)

- **Archives area (UA 2A)**
  The archives area is situated in parts of the floor which do not receive sufficient daylight or air conditioning. The archives area cannot house staff on a permanent basis. It is therefore mainly reserved for storing the long-term archives of occupants and for storing supplies and equipment. Through the use of modified ventilation, it may also house:
  - meeting rooms
  - secure and enclosed rooms
  - dispatch areas and centralised building management
  - control rooms for video conferencing or interpreting booths
  - areas for firefighters and building security staff
  - areas housing the DG’s copiers and printers
  - computer laboratories and areas

- **Office area (UA 2B)**
  By definition, the office area is situated along the façades, patios and atriums with windows. It benefits from daylight and sufficient air conditioning. It can house staff on a permanent basis. It is used mainly for individual, shared or open-plan offices. Where there is insufficient archive space, it may also house:
  - small meeting rooms (< 75 m²)
  - conference rooms (> 75 m²) without interpreting booths
  - videoconferencing rooms

Where the finish and the physical environment (lighting, heating, ventilation) of an archives area are similar to those in the office area, its value is also similar.

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26 In DIN277, this sub-area is named "housing and stay".
27 For meetings of the association of former staff.
28 Impermeable to electromagnetic waves.
- **Workshops and kitchens area (UA 3)**
  The following spaces fall under this section:
  - workshops for locksmiths, joinery, electricity, heating, air conditioning
  - central printer and decentralised print shops
  - technical laboratories
  - kitchens and ancillary rooms with the exception of storage (UA4)

- **Storage and reception area (UA 4)**
  The following spaces fall under this section:
  - premises for commercial use, newsagents, kiosks, shops, including shop windows
  - areas for storing furniture and supplies, including for schools
  - areas for storing catering equipment
  - bursar’s offices, stockrooms, various storage
  - cold rooms
  - strongrooms
  - storage libraries
  - archives areas below ground, intended for intermediate archives
  - areas for sorting mail and areas for storing mail

- **Area for training and assemblies (UA 5)**
  The following spaces fall under this section:
  - teaching and training rooms
  - lecture theatres
  - conference rooms with interpreting booths
  - multimedia rooms or rooms with multiple uses
  - film studios and theatres
  - press galleries and rooms
  - exhibition rooms, art galleries, galleries housing collections and for educational presentations
  - meditation rooms and places of worship
  - libraries, reading rooms, multimedia libraries
  - info-points, displays of journals and catalogues
  - premises for sporting activities

- **Area for medical care (UA 6)**
  The following spaces fall under this section:
  - consultation rooms
  - analysis laboratories
  - health centres

- **Washrooms and car parks (UA 7)**
  The following spaces fall under this section:
  - toilet, changing and shower facilities
  - premises for cleaning services
  - parking spaces for bicycles/motorcycles/cars
  - disabled parking spaces
  - bin stores
  - the storage of waste and the destruction of documents

**SERVICE AREA (SA)**

This constitutes all the technical areas of the building.
It applies to spaces above and below ground.
It may be the case that part of a floor or a whole floor is dedicated to technical requirements. In this case, the technical area also includes the horizontal passages serving that area.
It comprises the following sub-areas:

- **Technical area (TA)**
  - All technical areas fall under this section, in particular:
    - areas for collecting and disposing of waste water
    - water supply, meters and pumps
    - water treatment facilities, softeners
    - boiler room and the production of hot water
    - facilities for reducing gas pressure, meters
    - control panels: high and low voltage cabins, transformers, meters
    - areas housing back-up systems, no-breaks and inverters
    - production of chilled water
    - air treatment facilities, supply and extraction
    - IT and telephony facilities
    - lifts, service lifts and their machinery
    - areas for washing vehicles
    - areas for other possible technical operations
    - areas occupied by external contractors

**Circulation area (CA)**

The circulation area constitutes spaces enabling the movement of occupants. The code does not distinguish between horizontal and vertical movement.

- **Circulation area (CA)**
  - The following spaces fall under this section:
    - entrance halls of the building
    - lift lobbies
    - evacuation routes and security airlock systems
    - corridors, security airlock systems and secondary circulation areas
    - passageways between adjoining buildings
    - internal emergency stairways
    - internal stairways for access between floors
    - escalators
    - lifts and service lifts
    - vehicle ramps
    - roads within car parks
    - loading and unloading bays

**Residual area (RA)**

The residual area constitutes spaces which cannot be fully used by occupants. This area is however heated, ventilated and serviced by cleaners, maintenance teams and security.

It includes *inter alia* the following spaces:

- intra-muros spaces with headroom of < 1.60 m
- spaces housing heater casings

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29 Secondary circulation areas are delimited by fixed construction features unlike tertiary circulation areas which are delimited by features which can be dismantled (partitions, screens, cupboards …) which may change according to changes in layout.

30 The area of lifts and service lifts is counted once and is carried out at the main floor served, usually the ground floor.
4.5 Annex E: SPECIAL FEATURES OF THE BELGIAN MARKET

4.5.1 Gross floor area (GFA)

➢ PRACTICE OF THE COMMISSION IN BRUSSELS

The closed polyline delimiting the GFA in accordance with the code is the same as the external polyline of the GIS system, with the exception of courtyards and patios on the ground floor and some virtual floors in atriums which are currently taken into account by GIS but not included in the code.

➢ PRACTICE OF THE BELGIAN PROPERTY MARKET

Usually the Brussels property market does not use GFA, but rather the property area PA (see section 4.3).

With the exception of the taking account of decorative features, the GFA in accordance with the code is the same as the "Fully enclosed covered area (FECA)" used by other property markets.

4.5.2 Net floor area (NFA)

➢ PRACTICE OF THE COMMISSION IN BRUSSELS

The Commission in Brussels uses the area delimited by the internal polyline of the GIS system. It is not the same as the NFA in accordance with the code. Indeed, the intra-muros area on GIS is larger than the NFA as it includes construction features, recesses for windows with walls below the windowsill and in some cases internal voids.

➢ PRACTICE OF THE BELGIAN PROPERTY MARKET

The NFA in accordance with the code is the same as the NLA (Net Lettable Area) used by the market with the exception of areas where the headroom is less than 1.60 m, which are not taken into account when calculating NLA, whereas the code regards such areas as "residual areas" which are included in the NFA.
4.5.3 Property area (PA)

Property professionals in Brussels often use a third reference area during property negotiations. This area is known as "property area". It is applied solely in Belgium and is used by the Commission in property proceedings in Brussels.

**DEFINITION**

The property area (known as PA) is the area between the lines of construction features delimiting the building, measured from "as built" files and plans.

PA is acquired (by purchase, long-term lease) or made available to the occupant through payment of a purchase price or rental. It is the area known as "negotiable".

In legal terms it is designed to satisfy the claims of two parties: for the owner the earnings he will receive as a return on investment and for the tenant the size of the space he will have at his disposal.

**MEASURING METHOD**

The PA of a level is the area of the closed polyline, the sides of which are formed by:

- the lines of façade walls if $S_{façade\ window} < 1/3 \ S_{total\ façade}$
- the lines of windows if $S_{façade\ window} > 1/3 \ S_{total\ façade}$
- the line of party walls between different buildings
- the line of construction features separating possible co-owners

In the case of an atrium, the PA includes solely the lower floor area (area where people walk) and not the area of virtual floors (plan 5.1 A).

In the case of spaces which are covered and open along a maximum of two sides, the PA includes the area delimited by the vertical projection of the covering part (plans 5.1 B, C and D).

If necessary, the PA may be measured "on site", provided that the thickness of the walls is checked. In basements, where it is not possible to measure the thickness of walls underground and against adjoining buildings, the agreed view is that the outline of the polyline lies within the outer wall and runs along the visible face of the wall.

**INCLUSIONS / EXCLUSIONS**

The PA does not include the area of:

- possible decorative features applied to the façade
- access routes

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31 The plans in the "as built" draft file are made up of a horizontal section which is usually situated around one metre above the floor, so that the windows can be seen.
- gardens
- courtyards and patios ≥ 4 m²
- lift shafts
- vertical penetrations > 1 m²
- areas which are covered but not enclosed on three sides
- areas with headroom of < 1.60 m
- unusable roof voids
- balconies
- terraces
- roof platforms
- pitched roofs
- technical areas serving the building
- metal walkways used for maintaining the building
- external stairways

The PA **does include** the area of:
- courtyards and patios < 4 m²
- internal stairways and escalators
- maintenance areas
- atriums
- covered passageways
- columns, pillars and fixed construction features
- usable roof voids

**APPLICATION TO INSTITUTIONS**

The PA, calculated by applying the rules set out above, is used for:
- property negotiations
- the financial analysis of property investments

The PA does not give an exact idea of the structure of the building.

It focuses mainly on the use of the asset.

In the Pace/GIS system, no polylines are the same as the PA.

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32 With the exception of the main level served (usually the ground floor).
33 Lift shafts are taken into account at the lower level served.
SCHEMA 5.1:
ZONES COUVERTES, A et B

A: Atriums

Key:
Schéma = plan
Zones couverts, A et B = covered areas, A and B
Atriums = atriums
Plancher avec vide d’atrium = floor with atrium void
Plancher sol d’atrium = ground floor of atrium
Coupe = section
Ligne SPB = GFA line
Vide = void
Plan niveaux – levels plan
Zones couvertes et ouvertes latéralement sur un seul côté (incluant balconies et terrasses) = covered areas which are open only along one side (including balconies and terraces)
Zone couverte = covered area
Ligne SPN = NFA line
Key

Zones couvertes et ouvertes sur deux côtés (incluant balcons et terrasses) = covered areas which are open along two sides (including balconies and terraces)
Zone couverte = covered area
Ligne SPB = GFA line
Zones couvertes et ouvertes latéralement sur trois côtés ou plus (incluant balcons et terrasses) = covered areas which are open along three or more sides (including balconies and terraces)
Key

Schéma = plan
SPB pour les zones non couvertes = GFA for open areas
Zones non couvertes, cours et patios dont la surface $S < 4 \, \text{m}^2$ = open areas, courtyards and patios with an area $A < 4 \, \text{m}^2$
Coupe = section
Ligne SPB = GFA line
Zones non couvertes, cours et patios dont la surface $S > 4 \, \text{m}^2$ = open areas, courtyards and patios with an area $A > 4 \, \text{m}^2$
SCHEMA 5.3
NICHES et ENCORBELLEMENTS

Key:

Schéma = plan
Niches et encorbellements = alcoves and cantilevers
Ligne SPB = GFA line
S = A
Plan plancher = floor plan
Ligne SPN = NFA line
SCHEMA 5. 4
PENETRATIONS VERTICALES

A: S < 1m²
B: S > 1m²

La cage d'ascenseur est exclue de la SPN aux étages, mais incluse au niveau inférieur desservi

Key:
Schéma = plan
Pénétrations verticales = vertical penetrations
Ligne SPN = NFA line
S = A
La cage d’ascenseur est exclue de la SPN aux étages, mais incluse au niveau inférieur desservi = the lift shaft is excluded from the NFA on floors, but included at the lower level served
SCHEMA 5.5
Méthode pour déterminer la surface hors sol / sous sol

A : Cas d'une seule façade

Key:
Schéma = plan
Méthode pour determiner la surface hors sol / sous sol = method for determining the area above ground / below ground
Cas d’une seule façade = single façade
Hors sol = above ground
Sous sol = below ground
Trottoir = pavement
Prise de la mesure = measuring point
Axe milieu façade = middle façade line
B : Cas de plusieurs façades

Key:

Cas de plusieurs façades = many façades
Sous sol = below ground
Hors sol = above ground
Coupe = section
Vue en plan = draft plan