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Partie 3 : Habitations »**

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Foreword

This document prTS 14383-3 has been prepared by Technical Committee CEN/TC 325 "Prevention of crime by urban planning design", the secretariat of which is held by SNV.

This document is currently submitted to the CEN Enquiry.

This draft European Technical Specification has been prepared by CEN/TC 325 « Prevention of crime by urban planning and design » the secretariat of which is held by SNV.

The status of European Technical Specification was proposed to give all countries the opportunity to compare experiences and to harmonize procedures.

This European Technical Specification is one of a series for « The prevention of crime by urban planning and building design », that consists of the following parts:

Part 1 – Terminology

Part 2 – Urban planning

Part 3 – Dwellings

Part 4 – Shops and offices

Annexes A, B, C, D, E and F are informative.

Introduction

One of the most difficult tasks when one takes into account the security measures aimed at preventing crime and anti-social behaviour and fear of crime in residential areas is to determine the type and level of the threat (e.g. vandalism, burglary, aggression against people) and the scope of measures to be taken in order to reduce it.

The cause of crime is a subject that has been researched for many years. There are many factors that can influence the possibility of an offence being committed or not. Certain factors, for example family composition or socio-economic conditions are beyond the remit of this standard. Other factors such as neighbourhood layout and building design can be considered along with more specific reference to target hardening measures.

Three basic criminological approaches have been adopted: rational choice; routine activities and defensible space.

- a) In brief Rational Choice states that potential offenders will normally undertake their own risk assessment before deciding to commit a crime. They will consider the chances of being seen, the ease of entry and the chance of escape without detection.
- b) The Routine activities theory assumes that for an offence to take place there needs to be three factors present: a motivated offender, a suitable target or victim and a lack of capable guardian. To prevent a crime it is necessary to alter the influence of one of these factors. For example, an offender can be de-motivated by increasing the level of surveillance or by making access more difficult. A target can also be made less attractive by increasing the security or removing escape routes. Similarly, the presence or influence of a capable guardian, either real or implied, can be greatly enhanced by creating a sense of neighbourliness, blending socio-economic groups and creating liveliness by attractive street layout.

- c) The Defensible Space theory applies to the different levels of acceptance that exist for people to legitimately be in different types of space. Everyone has a right to be in a public space, such as a street, but they do not have the right to be in the garden of another person's dwelling, which is a private space. It is equally important to differentiate and distinguish public space from semi-public space and semi-private space, to make it possible to use either formal or informal social control over those spaces in ways that prevent crime and anti-social behaviour developing or progressing unhindered.

Most offences are committed because perpetrators enjoy opportunities: easy access, the possibility of hiding, absence of demarcation between public space and private space, weak lighting and/or favourable landscaping. By understanding the motivation of the offenders and counterbalancing it by adequate security measures combined with real or symbolical design elements, this European Technical Specification aims to assist designers, planners, real estate managers and stakeholders in the area of crime prevention in order to :

- a) Define suitable, object-oriented measures;
- b) Influence decisions relating to the architectural design, the layout of the site, landscaping, and other related details in order to make dwellings attractive and safe for inhabitants and unattractive targets for potential offenders.

In residential areas, either individual or collective housing, the purpose is not only to protect properties against burglary but also to prevent the presence of unwanted visitors, the illegal appropriation of space, the degradation of environment and fighting fear of crime.

The design of built environment can also influence on the individual perception of fear of crime (narrow and dark lanes), knowing that perception of crime often exceeds its reality.

Recommendations relating to the planning of new and existing urban areas, ranging from a few streets to a city centre, an industrial estate, or a large open space for public use, are given in pr ENV 14383-2.

1 Scope

This European Technical Specification gives guidance and recommendations on reducing opportunities for crime in dwellings through planning and design. It covers new and existing dwellings, in single or multiple units.

2 Normative references

This European Technical Specification incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Technical Specification only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

EN 81-1:1991, *Safety rules for the construction and installation of lifts – Part 1: Electric lifts.*

EN 356:2000, *Glass in building – Security glazing – Testing and classification of resistance to manual attack*

EN 1125:1997, *Building hardware – Panic exit devices operated by a horizontal bar – Requirements and test methods.*

EN 1143-1:1997, *Secure storage units – Requirements, classification and methods of test for resistance to burglary – Part 1: Safes, strong room doors and strong rooms.*

EN 1303:1998, *Building hardware – Cylinders for locks – Requirements and test methods.*

ENV 1627:1999, *Windows, doors, shutters – Burglar resistance – Requirements and classification .*

EN 1906, *Building hardware – Lever handles and knobs – Requirements and test methods.*

EN 1935:2002, *Building hardware – Single axis hinges – Requirements and test methods.*

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EN 10223-6:1998, Steel wire and wire products for fences – Part 6: Steel wire chain link fencing.

EN 12209:2003-12, Building hardware – Locks and latches – Mechanically operated locks, latches and locking plates – Requirements and test methods.

EN 12051:2000, Building hardware – Door and window bolts – Requirements and test methods.

EN 12320:2001, Building hardware – Padlocks and padlock fittings – Requirements and test methods.

EN 12604:2000, Industrial commercial and garage doors and gates – Mechanical aspects – Requirements

prEN 12650-1, Pedestrian doors – Powered pedestrian doors – Requirements and test methods.

prEN 12839, Precast concrete elements – Elements for fences.

prEN 13126-1, Building hardware – Fittings for windows and door height windows – Part 1: Requirements common to all types of fittings.

prEN 13724, Apertures of private letter boxes – requirement and test methods,

prEN 14383-1, Prevention of crime - Urban planning and design - Part 1 : Terminology

ENV 14383-2, Prevention of crime – Urban planning and design – Part 2 : Urban planning,

prTS 14383-4, Prevention of crime – Urban planning and design – Part 4 : Shops and offices,

EN 50131-1:1997, Alarm systems – Intrusion systems – Part 1: General requirements.

EN 50132-7:1996, Alarm systems – CCTV surveillance systems for use in security applications – Part 7: Application guidelines

EN 50133-1:1996, Alarm systems – Access control systems for use in security applications –Part 1: System requirements.

EN 50136-1-1:1998, Alarm transmission systems and equipment – General requirements for alarm transmission systems.

EN 60589-2-3:1994, Luminaries for road and street lighting.

EN ISO 12543-3: 1998, Glass in building. Laminated glass and laminated safety glass – part 3 : Laminated glass

R079-001:1996, CENELEC guide to achieving compliance with EC directives for alarm systems.

3 Terms and definitions

For the purpose of this ENV, the terms and definitions given in EN 14383–1 apply.

4 Objectives and methodology

4.1 General

While it is important to consider the actual building in detail, it is also essential to be aware of the influence that is exerted by the design and layout of the neighbourhood. This is sometimes referred to as the 'Meso' level and includes road layouts, infrastructures and orientation of facilities. Town planners, designers, developers and professionals with crime prevention expertise should be involved as a design team, to ensure that designing out crime factors are taken into account in the early stages of the planning process.

The joint approach should consider the various factors that can reduce the opportunity to commit crime. Some of the most important factors are ownership, presence and conflict minimization.

The aim being, that the design and layout of public space in the neighbourhood should encourage local residents to regard it as their own and take responsibility for it or ownership of it. If this can be achieved, crime and anti social behaviour are less likely to occur, or continue without the local people reacting to it.

NOTE: One of the strongest prevention factors to potential offenders is the risk of being seen and identified, which is why human presence and a large visible range are so important. Where possible mixed usage of these two notions should be encouraged as it prolongs life and movement throughout an extended period of the day. Street furniture should be designed to enable good sight lines and provide wide natural surveillance. Equally the access to the buildings should front onto public space for the same reason.

Fear of crime, whether real or perceived should be considered and the design of the environment should take this into account. Any design feature that could possible gives rise to a potential conflict situation should be avoided. Safe and integrated options for pedestrians and/or cyclists should be included and give a feeling of safety that will encourage their use.

Buildings meant for dwelling purposes can be split under two large categories :

- a) Individual dwelling, detached or in groups ;
- b) multi occupancy blocks .

In the area of crime prevention, three objective criteria have been taken into account :

- a) Protection of body and life;
- b) The nature and value of the properties to be protected;
- c) The degree of accessibility of this property, globally taken.

The evolution of crime in Europe obviously demonstrates that property theft often cumulates with crimes against people (subjected to physical assault at home or close to their residence).

Technical protection measures will have the effect of preventing as much as possible in relation to the mentioned criteria's.

Recommendations are also given to protect vehicles and other properties kept in common areas.

The methodology will consist of describing the behaviour patterns of the offender, in providing a risk analysis tool regarding the site considered, whether individual or collective, and proposing technical recommendations and solutions.

4.2 Designing out crime in individual neighbourhoods

Any crime prevention strategy is essentially one of risk management. Consequently, before an effective strategy can be developed, it is important to identify and understand the risk factors involved.

By the risk analyses it is essential to give high priority to local factors. A diagnostic survey of crime in the immediate neighbourhood should be carried out to identify the type of crime reported, where and when incidents occurred and who the groups of victims were.

NOTE: This can be achieved by spatial mapping to identify crime clustering or hot spots.

It is also important to identify factors that may influence the opportunity for crime in a particular area but which may not necessarily be obvious. For example, an unauthorized route that passes through as residential area may link two features attractive also to potential delinquent. Although the features may be some distance away from the dwellings, they can influence the possibility of crime.

Where a residential development is planned on a new site, it is important to consider the crime generating potential of the development and to take into consideration the findings of the diagnostic survey of crime in neighbouring areas.

4.3 Image of the neighbourhood

First impressions gained by potential offenders will have the greatest influence on their decision to offend or not. Although potential offenders may be attracted to a well neat residential area due to its obvious prosperity, it is similarly probable that the residents are proudly of their property and therefore also more watchful and protecting.

Households that take collective action to improve the environment and protect their territory against potential offenders, are consequently likely to experience less crime and an improvement in the quality of life. To facilitate this, the design of the development should give a clear identity and the layout should ensure the maximum possible surveillance from property to property.

Consideration should also be given to a provision of a mix of dwelling types and occupancy.

NOTE: Generally speaking burglars will prefer to avoid confrontation. An unoccupied building is more vulnerable than an occupied building. Even a lack of visibility from the street or other buildings also increases the risk. A burglar's enemies are time, noise and a risk of human presence nearby (risk of unexpected intervention of a police car or any other person).

Apart from burglary, other so called « public space » delinquency acts can generate fear of crime, namely degradation of public and private properties (vandalism, arson in refuse bins) and anything in connection with vehicles (car theft, theft of bicycles, mopeds and motor bikes, trafficking in spare parts) and finally attacks on people.

The above offences and other violations can be perpetrated by residents or people from the outside, which means a differentiation of prevention solutions to be implemented.

4.4 Type of burglar

For the purpose of this Technical Specification, burglars are categorized as being either opportunist or experienced-professionals.

Opportunist burglars are those who will commit an offence if the opportunity presents itself. They are interested in buildings with easy access, a low level of surveillance and easy escape routes.

The potential offender will know that most dwellings have articles worth stealing and will feel confident that the reward will be worth the minimal risk involved. Other factors which may influence an opportunist burglar include the absence of vehicle from the hard standing in front of a dwelling, poor or no lighting, lack of an alarm system or a general feeling in the neighbourhood that none of the residents are taking an interest in the area.

The opportunist burglar is likely to only carry lightweight hand tools, such as a crowbar or screwdriver but may also make use of implements left within easy reach by the resident, such as a spade. Accessible windows and doors which have a forced entry resistance of short time offer the ease of access that this type of burglar is seeking (see annex A).

An experienced burglar will, prior to carrying out the offence, conduct an important phase of gathering information. It is also probable that an experienced criminal will have a specific target in mind and may be prepared to use efficient tools to gain entry to the object (see annex A). These delinquents very often also know methods of cheating or sabotaging mechanical, electronically or optoelectronic security devices.

5 Risk Analysis and assessment of required protection level

The following assessment of the level of risk makes it possible to define the most appropriate protection levels over five classes, in ascending order from 1 to 5.(see table 1).

Table 1 — Level of risk and crime prevention measures

Level of protection	Level of risk	Action to be taken
1	Very low	Simple physical protective measures
2	low	Additional physical protective measures required
3	Medium	Additional physical + limited electronic protection measures required
4	High	Extensive physical + medium electronic protection measures required
5	Very high	Extensive physical + extensive electronic protection measures required

The risk analysis according with annex B is based on a procedure with two steps. The method used is based on questionnaires which consider potential significance and potential risk. The end result serves to match the increasing risk with the appropriate measures of protection.

A second and simpler analysis in annex C, is based on the evaluation of increasing risk factors which are quantified on a scale from 0 to 5. By adding these factors in the same way as a potential criminal would, an evaluation of potential vulnerability is obtained. The higher the figure, the higher the risk factor and the higher the preventative measures that are needed.

Higher evaluated results describe higher risks. Risk factors may require regular checking and up-dating.

6 Individual dwellings (detached or in groups)

6.1 Risk analysis

For the creation of a risk analysis for detached houses the forms B.1 to B.3 come to the application.

Annex C shows a simplified risk analysis for the evaluation of the existing risk and the derived protective measures.

6.2 Recommended resistance classes of products

Table 2 shows the recommended resistance class of products to achieve the grades of security required in Table 1.

Table 2 — Recommended resistance class of products to achieve the required level of protection

Product	Type of dwelling	European standard	Level of protection				
			1	2	3	4	5
External door ^a	Flat	ENV 1627	Class 1	Class 2	Class 3	Class 3-4	Class 4-5 ^b
	House		Class 2	Class 3	Class 4	Class 4-5 ^b	Class 5-6 ^b
Security lock	All	PrEN 12209	Grade 2	Grade 3	Grade 3	Grade 4	Grade 5
Cylinder for lock ^c	All	EN 1303	Class 4	Class 4	Class 4	Class 5	Class 5
Security lock furniture ^c	All	ENV 1906	Class 1	Class 2	Class 3	Class 4	Class 4
Accessible window	Flat	ENV 1627	Class 1	Class 2	Class 3	Class 4	Class 4
	House		Class 2	Class 3			
Accessible glazing ^d	All	EN 356	Class P4A	Class P5A	Class P6B	Class P7B	Class P8B
Shutter used to protect accessible window or door ^e	All	ENV 1627	Class 1	Class 2	Class 2	Class 3	Class 4
		If the shutter is used together with a burglar resistant window or a door, the resistance class can be reduced					
Window or door which only can be reached with a climbing device ^f	All	ENV 1627	-	Class 1	Class 2	Class 3	Class 4
Glazing which only can be reached with a climbing device	All	EN 356	Double glazing	Double glazing	Class P4A	Class P5A	Class P6B
Alarm or intrusion system	All	EN 50130 EN 50131	-	Grade 1 (Optional)	Grade 1 (optional)	Grade 2	Grade 3
Safe	All	EN 1143-1	required when the valuables exceed a specific amount				

^a If door leaf and frame are strongly constructed, a single point locking system should suffice up to resistance class 3. If door and frame are weaker, a multipoint locking system should be used on doors of resistance class 3 and higher.

^b Doors in resistance classes 5 and 6 should be tested with the security lock and lock cylinder fitted, in accordance with the requirements of ENV 1627.

^c The components are always examined fitted e.g. a door with the frame, hinges and the lock. By doors in the resistance classes 1 to 4 the user can select the lock cylinder and the security lock fitting, it is also tested components (see EN 1906, annex A). By doors in the resistance classes 5 and 6 lock cylinder and security lock fitting are a part of the tests in accordance ENV 1630

^d Glazing of building parts in accordance with ENV 1627, resistance class 5 and 6 must be special protected against the attack with angle grinders.

Higher quality glazing may include by Glass in building – Security glazing:

EN 1063: Resistance against bullet attack

EN 13541: Resistance against explosion pressure

The documents mentioned above describe only the qualities of the glass themselves. The requirements on complex components are described in the following documents:

EN 1522: Bullet Resistance, EN 13223-1: Explosion resistance, Shock tube or EN 13223-2, Range test.

Beyond the standards EN 356, EN 1063 and EN 13541 which describes only the quality of the glass, one should make sure of the compliance of the fastening of the glass in the component with regard to professional recommendations

^e Shutters can be used together with a tested, burglar resistant door or window. The two components can in this case show a lower resistance class. Caution, shutters only in the closed position have burglar resistance characteristics.

^f Balconies on higher floors can often be reached by experienced burglars.

6.3 Additional recommendations for specific risks

6.3.1 Semi private surroundings and common used rooms

To further enhance security, considerations should be given to the installation of a CCTV surveillance system and/or an access control system. CCTV surveillance systems should comply with the requirements of EN 50132-7. Access control systems should comply with the requirements of EN 50133-1).

6.3.2 Additional requirements for the personal security

The protection of persons being fired with arms (EN 1063, EN 1522) or the effects of explosions (EN 13541, EN 13123-1, EN 13122-2) must be individually clarified in accordance with the mentioned standards.

7 Enhancing the security of individual dwelling areas

7.1 General

The various elements that can influence the protection of dwellings against theft, burglary or aggression are naturally split among three concentric zones :

- a) the environment or periphery ;
- b) the immediate surroundings of the house, or perimeter ;
- c) the building itself and its inner volumes.

7.2 Environment or periphery

In this part, we will analyse :

- a) access routes,
- b) control of pedestrian or vehicle accesses,
- c) lighting

7.2.1 Access ways in individual dwelling areas :

Whenever possible, the access routes should be open and visible from the entrance of a dwelling area in order to deter location searches by potential burglars. This can be best obtained by grouping houses in such a way that an important number of dwellings will face a relatively limited length of street.

Road surfacing will also contribute to this threshold feeling (e.g. by forming symbolic / psychological barriers such as sleeping policemen). The risk of crime may also be reduced by minimizing access points to the estate for example by having only one road in.

7.2.2 Territoriality

As far as possible, and as a deliberate measure to prevent crime, the areas around dwellings in a neighbourhood should maximise territoriality. Territoriality can be defined as the capacity of the physical environment to create for each individual, perceived zones of territorial influence, that result in a proprietary interest and felt responsibility for that zone by the residents.

The idea of territoriality is that people will feel more able to extend their control over their immediate surroundings and this will reduce crime. The aim being, that such a feeling will be apparent, "tangible", and enough to discourage potential offenders who would feel more at risk of being challenged or observed committing a crime. One commonly accepted method of achieving this is by the application of 'defensible space' concepts, i.e. classifying space into four different kinds of spatial area: public space, semi-public space, semi-private space and private

space. To maximise security of dwellings and their surroundings the layout should maximise private space and minimise public space.

The offenders are likely to become astute at judging the territorial quality of an area and the risks associated with its invasion. These risks are higher the more private the space and are emphasised by barriers between private and public space. The type of barrier used may be physical, such as hedges, walls etc, or more symbolic ones, such as signboards, vegetation or a change of surface material.

7.2.3 Design and layout of public space

Public spaces are open areas with uncontrolled access, such as roads and car parking area. Where possible public areas should be designed to make the genuine user feel safe but the criminal made to feel vulnerable. This can be achieved by clear sight lines, good lighting and lack of places for concealment for criminals.

Care must be taken when locating pedestrian footpaths as they can increase permeability within a development and supply unnecessary access points to dwellings.

Approach roads to housing areas should be kept to a minimum and should be well planned, well lit and visible from the windows of nearby dwellings.

Measures aimed at deterring search behaviour in neighbourhoods include, surface texturing the threshold of the access road and providing entrance markers to create the impression of crossing from a public to a semi-public area. A well-populated cul-de-sac can create an area where intruders are likely to feel at risk of being observed, and residents and visitors may feel more secure. Dwellings should be grouped so that maximum mutual surveillance of approaches and vulnerable entry points is possible, in which anyone coming from or going to a dwelling can be seen by neighbours.

Walls in public / semi-public areas are likely to be the most attractive to graffiti artists and provision of anti-graffiti surface protection should be considered at the design stage

7.2.4 Design and layout of semi public space

Semi-public spaces are areas that are more public than private. Footpath systems, resident parking, garage courts, enclosed play areas and accesses to multiple dwelling complexes fall into this category.

Regarding visitors car parks there are two designs that avoid criminal activities :

- a) Locating them as near as possible to the dwellings so that the occupants can have sight and supervision over them.
- b) Locating them outside the estate and use an access control for residents, to the access for emergency or assistance vehicles must be guaranteed.

The footpath system should be planned according to the same principles as the approach roads and be well lit and well defined. Unsupervised completely separate footpaths running through housing areas are seen as public space and should be avoided as access and escape routes for offenders, , more opportunities for assault and increase the fear of crime.

From the view point of security the advantage of a cul-de-sacs is a singular entrance and exit. This fact has to be considered by the layout of pedestrian footpaths. The rears of dwellings have to be allocated to the private space always. Such measures force potential criminals to stay in public space, where is a higher chance to be observed or to be caught.

7.2.5 Design and layout of semi private space

Semi-private space includes areas such as front gardens, paths or steps to main entrance doors, and hard standing for vehicles.

For residents it is important that the route from their own landing door to a busy public road is safe and secure. As far as possible, pedestrian routes should be clearly visible from the windows of nearby dwellings so that residents may be less afraid to walk around by day or night.

7.2.6 Defensible private space

Private space includes areas under the direct control of a person or persons, which are not directly accessible by others, for example a rear garden.

7.3 The immediate surroundings of the house

7.3.1 The fence

In the area of individual housing, the fence is a physical obstacle aimed at marking the border between public or semi-private space and the private property strictly speaking. The fence is made of simple parts: e.g. walls, wood or metal elements, grids (see standards EN 10223 and pr EN 12839), vegetation such as hedges, or combination of such elements. Mechanical fences may be supplemented by electro technical parts; e.g. anti-intrusion sensors, CCTV with or without sensor ⁽¹⁾, shock lightning, connected with intrusion alarm system. The minimal fence height for security relevant fences of 1,80m⁽²⁾ is recommended.

Passageways through the fence can be split under :

- main access for pedestrians and/or vehicles,
- additional accesses.

Security measures concerning both will be differentiated. The main gate should be permanently locked by a double access lock or an electro locking system with or without remote access device.

It is advisable that the remote access at the level of public space is implemented by interphone or videophone.

Additional access doors will be permanently locked and will not be opened unless by request of authorized persons.

The fence and all passageways should be homogeneous concerning the protection level.

At any rate, there should be a good visibility over all accesses from the inside of the house.

7.3.2 Layout and location of garages

Apart from their function as shelter for vehicles, garages are also used as storage place for bicycles, motorcycles and gardening tools, including lawn-mowers thus a secured garage keeps theft low. It is recommended that garages be located close to dwellings, preferably with their access door facing the street and at least at a car length from the sidewalk or public passageway. If the garage has a connecting door with the house, the latter should be dealt with as if it were an external door (see table2).

7.3.3 Security measures to prevent the theft of motor vehicles

A car or motorcycle inside a closed and looked garage is sufficient protected against theft or damage. It is advisable to avoid parking on the street or in a public parking area away from dwellings where there is little or no surveillance or lighting. When parked on the street, vehicles should be equipped with mechanical or electronic anti-theft devices.

¹ Reacting to a movement detection over the area covered by the focal.

All of this being incremented according to the security level and value of the property to be protected and shall have to comply with the current Privacy legislation.

² the fragility of the lattice work, without augmenting the mass of fences and walls, make them more difficult to climb. This also enhances the perception of risk by potential intruders (noise, fall, injuries) if the lattice fell down because of an attempted climbing.

7.3.4 Outbuildings

A shed or a garage or secured to walls with appropriate locking mechanisms are recommended for tools, gardening tools, ladders and any other implements that can be used to assist in criminal activity.

7.3.5 Telephone connection

Telephone line can be used for the transmission of alarm calls and/or for automatic alarm transfers. To prevent unauthorized manipulations telephone lines should be laid in the underground. In addition important telephone lines have to be equipped with electronic line control system.

7.4 External lighting

7.4.1 General

By the design of the security lightnings an excellent illumination has to be considered, so that potential offenders can not be imperceptible. The vegetation must be planed, executioned and maintained that the security lightning is not impaired.

Security lighting may be either :

- a) automatically triggered by a presence ;
- b) kept constantly on during dark hours.

7.4.2 Lighting systems triggered by sensors

Lighting systems triggered by sensors can be preventive, depending on the situation. For example a lighting system triggered by motion or presence detectors are effective in urban areas or dwellings, whereas on isolated locations it might aid crime by providing light. In those situations a stroke light would be more effective.

7.4.3 Location of luminaries and sensors

The space from the gate to the main access door should be well-lit in order to enable a proper identification of persons during darkness. Luminaries should not be placed directly above a visitor's head, as it does not assist in identification. The luminaries should be located to the side to ensure that the light is focused on the face of the person.

Luminaries should be sited so that they do not cause inconvenience or danger to neighbours or road users. Luminaries, sensors and there power source must be protected against manipulations by potential criminals.

The number of the house, the name of the street or other information signs should be well lit so that visitors and emergency services can identify them immediately.

Guidance on the requirement of luminaries for road and street lighting is given in EN 60598-2-3.

8 The building envelope

8.1 General

The means employed to commit burglaries will depend upon several factors associated with the materials utilized in the building fabric.

The most common point of entry in dwellings are doors and windows. Place and method of burglaries will be determined by following significant factors: environmental design, the visibility of the place of crime, the burglar resistant characteristics of the doors, windows, and their accessible fittings, as well as the fixings of these elements on the building.

It is unusual for potential offenders to break a sheet of glass in a window and enter through the broken glass³. It is common place for glazing to be broken to gain access to not protected fittings of a door or a window. Doors and windows can be break open in many ways:

- a) By physical force e.g. foot kick, shoulder blow
- b) By breaking open with mechanical and/or electrical tools
- c) By manipulation of locking elements

Burglar resistance doors, windows and shutters in accordance with ENV 1627 are tested as complete, functional building elements including there locks and hardware. Security relevant changes at tested building elements are not allowed. It is the part of architects and designers, to use, according state of the art, tested building elements from the significant resistance class.

8.2 Safety of doors, windows and shutters

Doors, windows and shutters should conform to the requirements of ENV 1627 to achieve the required level of protection shown in table 2.

On the other hand, it is also advisable, in order to prevent theft by using false identities, to equip the main door with a wide-angle peephole in order to identify visitors while maintaining the door locked up. A robust safety door chain will make an inspection of visitors and of their documents possible while preventing them to force the door open.

The glazing parts of burglar resistant building elements according ENV 1627 must full fill the requirements of EN 356. The requirements on the glazing are described in ENV 1627 as well as in Table 2 of this document.

8.3 Accessibility of windows

Accessible windows are defined as windows to which the burglar can get access to have a good position for the attack, e.g. windows at the ground floor, at balconies, cellar windows and probable roof windows . None easily accessible windows are those which the burglar can only attack from a ladder or an other climbing device. In this situation the burglar can not easily attack the window, therefore windows with a lower resistance class can be used, see table 2.

8.4 Security of emergency exits

Some countries of the European Union recommend the use emergency exits that can open from the inside without use of a key.

In case of fire emergency exits allow persons in the building to escape. . Emergency exits can full fill the same burglar resistance requirements from there attack side like normal doors.

Glazed doors and any adjacent glazed panels to use glazing in accordance with EN 356.. Requirements at the glazing are described in ENV 1627 and in table 2 mentioned.

8.5 Letter boxes and letter openings

Doors and windows which are not locked with a key from the inside, the openings of letter boxes and individual letter openings should not be located less than 400 mm from the lock, unless a second closing device is installed more than 400 mm from the letter opening. If a box has been installed behind the letter opening, the aperture requirements of prEN 13724 types 1, 2 or 3 should apply.

NOTE: It should not be possible to use the letter plate opening to insert either an arm or tools that can manipulate the locks on the door and affect entry.

³ Building elements as doors, windows or parts of facades, with glazing down the floor, are of higher risk.

8.6 Internal areas

8.6.1 Intruder alarm systems

Intruder alarm systems detect and report an incorrect situation, but provide no mechanical protection. The use of an intruder alarm system is only effective in combination with mechanical protection devices.

In this respect, the role of an intruder alarm system is to detect and report any intrusion inside dwellings. The visible parts of a intruder alarm system have a preventive effect at potential criminals against:

- a) Vandalism and degradations
- b) Burglary

An intruder alarm system must be designed, that the detection is triggered as soon as the mechanical protection device will be attacked.

The designs of an intruder alarm system with all his parts depend on the object and have to be installed by specialists.

There is a difference between a silent and a loud alarm. A silent alarm is neither visible nor acoustic on the site. A loud alarm will be signed acoustic (siren) and/or visual (flash light) on the site. Furthermore a transmission of alarms to a 24h security control centre is hardly recommended. Dwelling areas are usually equipped with loud alarm systems. The triggering of a high-sounding and luminous alarm has an immediate psychological impact on the intruder trespassing inside a dwelling. The flash light indicates the way to the site for the intervention forces.

The efficiency of such a device can be insufficient if the alarm is not followed by a prompt intervention on the premises. The arrived alarm information must be checked and evaluated by the operators, which apply subscribed instructions for the intervention.

It is advisable that the accessible parts from the intruder alarm system like siren⁴, flash lights, detectors etc. are located in order to prevent it from being sabotaged. The general requirements for anti-intrusion emergency systems are mentioned under EN 50130 and EN 50131.

8.6.2 Safes

For the storage of high values as money, jewellerys, securities etc. (see Table B.1), there should be installed a safe, consideration with the requirements of EN 1143-1.

9 Multi occupancy blocks

9.1 General

Flats in residential blocks in multi-occupancy require an extended risk assessment because the relatively large number of people using semi-public space in and around the building often results in less control exercised by the residents. When this happens, potential criminals have a greater chance of gaining entry into building and access to the front doors of individual flats.

⁴ Some countries of the European Union have specific regulations regarding outer sirens.

9.2 Risk analysis

For the creation of a risk analysis for multi occupancy blocks the forms B.1, B.4 to B.5 come to the application. Additional information is contained for the ascertainment of the existing risk and the protective measures to be derived in the appendix C.

10 Enhancing the security in multi-occupancy blocks

10.1 General

The various elements that can influence the protection of residential buildings with common entrances against theft and petty crime concern:

- a) the peripheral environment,
- b) the perimeter and common areas,
- c) the protection of the flat.

10.2 Elements of protection of the peripheral environment

10.2.1 Pedestrian footpaths and passageways

Pedestrian footpaths passageways should be well-lit and open to surveillance from as many directions as possible. Planting and vegetation can be used very effectively as a crime prevention measure but should be carefully selected and located. From the edge of any footpath for a distance of 2m there should not be any vegetation more than 1m in height and should be constantly maintained as such.

NOTE: Lack of grounds maintenance not only gives an area a feeling and visual impression of neglect and unease but may also provide places of concealment. Untrimmed planting and vegetation can also diminish surveillance by obscuring lighting and sight lines.

Where underpasses or tunnels are in use they should be as wide, bright, straight and well lit as possible. If there are bends or corners, observation mirrors should be installed to assist pedestrians. Where there is a clearly identified risk, the installation of a CCTV surveillance system should be considered. and CCTV-systems must be used in accordance to the Privacy Legislation.

10.2.2 Vehicles access to site

Where possible, vehicles entrances should be separated for residents and visitors, e.g. by the use of access control devices. The access for emergency vehicles must be possible. Good and clear signage, traffic management and speed restrictors should be used to assist in maintaining a safe area around the buildings.

10.2.3 External car parking and garage blocks

It is advisable that parking spaces be well lit and visible to residents and road users.

Private parking spaces and visitor parking should be demarcated by markings. Private parking can be blocked with suitable equipments e.g. removable bollards. CCTV surveillance should be considered as a supplementary measure.

In residential areas strongly hit by delinquency, it is desirable that traffic lanes and individual parking spaces be demarcated by material obstacles, planters or bollards in order to prevent the parking lots being misused for unlawful racing or other dangerous events ; CCTV surveillance should be considered as a supplementary measure. Doors on external garage blocks should conform to the requirements of EN 1627

10.2.4 Children's play areas

The responsibility for children's safety is primarily a concern for parents. The design and layout of children's play areas should maximise the children's security by means of natural surveillance.

Play areas should be located where they can be supervised from dwellings.

Children's play areas should preferably be located away from access routes used by two or four-wheeled vehicles, and should conform to EN 1176-1 and 1177.

10.3 External lighting

10.3.1 Security requirements

A good lighting scheme that is well designed and resistant to vandalism, can deter potential offenders and reduce the fear of crime. All roads, pedestrian ways, entrances and access routes towards multiple-block estates should be well lit with uniform spread of illuminance.

Any lighting scheme should also be maintained and checked regularly.

10.3.2 Light flow

The use of well-designed lighting scheme can be efficient for buildings where lighting is being used to complement other specific prevention measures. The floodlight on facades and open areas with trees and gardens can be decorative while improving security.

10.3.3 Minimizing light pollution

Care should be taken to ensure that light is directed to the area where it is required and for the purpose it is required. Footpaths can be lit with luminaries that keep all of the light emission below the horizontal plane. Direction and information signs should be lit with lighters that focus light where it is needed.

10.3.4 Maintenance

Estate lighting should be regularly checked and old, inefficient luminaries with low output and high running costs should be replaced. Failed units should be replaced immediately.

Trees and shrubs in close proximity to light sources should be regularly pruned and trimmed to ensure that they do not interfere with the safe illumination of paths and doorways.

10.4 Perimetric protection (common areas)

10.4.1 Access to buildings

The main entrance to a building should be clearly identified, attractive and well-lit, and should not offer any concealment for intruders.

When an access point is being supervised, other entrances must be included in this surveillance. The lighting of the entrance must be equal to the general lighting concept... Potential criminals like to stay in areas with low light.

Access points to building should be supervised whenever possible either by technical measures or by human presence. The manner by which this is achieved will depend upon the risk assessment, local planning conditions and the specific requirements of the local fire authority, if appropriate. Human presence is usually found to be the most effective means of supervision.

Access control can be achieved by :

- c) Door with electrical locking system controlled by an appropriate access control system, for example a swipe card or code ;

- d) An intercom and/or CCTV system enabling the caretaker or the residents to limit access ;
- e) A double door arrangement controlled by an appropriate access system, for example a swipe card or code (interlock control system);
- f) A person who controls visitors when they call.

NOTE: Common entrance doors with access control systems should be protected against manipulation, abuse and vandalism.

10.4.2 Lifts

Lifts should match standard EN 81-1 and the following criteria's. Inasmuch as an access control is correctly carried out at the entrance of the building, it is not necessary that lifts be subjected to an additional access control. In areas where security is particularly desired, the operation of lifts could possibly be subjected to control measures (badge, key, or operation code). It is desirable that coverings and operation plates are sturdy and resistant to vandalism,.

Doors with glazing or full glazing lifts, enable the users a good overview and a feeling of security by using lifts.

10.4.3 The stairs

Inner stairs should be well-lit during the day and the night (time switch, movement detection).

10.5 Underground parking

10.5.1 Access ramp

Access to the underground parking or the private parts of an underground parking should be equipped with an access control system. The access control can be ensured by: key switch, badge, remote control or an intercommunication system with or without CCTV. The tail-gaiting can be prevented by using a two-gate interlock system. An two-gate interlock system can be realized with two building elements such as: Garage doors, barriers, pollards, ramps etc. and corresponding control units. This installation has to be robust and full fills the requirements on the security in use.

10.5.2 Rooms in underground parking

Parking space must be as clear and open as possible, niches must be avoided and the following principals should be respected:

- a) Well uniformed lighting and regularly maintained;
- b) Use of clear colours for ceiling and wall coating including anti-graffiti protection;
- c) Installation of highly visible signs;
- d) In case of a higher security level the underground parking or parts of them can be under CCTV surveillance.

In addition to the above mentioned principals broadcast soft music can also reduce fear of crime.

The security and the protection of vehicles will be increased with individual closed parking boxes.

10.6 Connection with common areas

Connection doors with common areas are passageways with fire and or emergency exit functions.

Emergency exits which directly open on the outside should be conforming to the requirements of EN179 or EN 13637. In case of a higher security level, the status of doors can be electronically surveyed. The transmission such alarms is only useful, in case of 24-hours-surveillance.

The access from underground parking to common areas must have the same access control as the other building entrances. Emergency exits according with EN 13637 can be connected to an access control system.

10.7 Plant rooms

Plant rooms usually do not contain items of value; wilfully damage that can result from an attack on a plant room may be substantial. Doors to plant rooms should be generally closed and full fill the requirements of ENV 1627 (burglar resistance) and prEN 14600 (fire resistance). Sensitive plant rooms should be equipped with a fire alarm system and in case of need with an intrusion detection system.

10.8 Letter boxes

All countries have their own national regulations for the placement of letter boxes. Where possible, letter boxes should be grouped in a locality that is protected by access control to prevent theft or damage of mail.

Letterboxes must be closed and should be conform to the requirements of prEN 13724

10.9 Electricity and gas meters

All countries have their own national regulations for the placement of electricity and gas meters. Where possible, meters should be grouped together in common areas inside of the building. If meters are placed outside of the building they should be protected against vandalism with burglar resistant technical boxes.

10.10 Refuse

10.10.1 Refuse storage areas

Refuse bin storage areas should be located in areas easily accessible for the residents either from the outside or inside of buildings. For security purposes access doors should be fitted with a self-locking device operable from the inside without the need of a key. Refuse bin storage area should not generate a feeling of insecurity and it should be easily accessible by the appropriate waste disposal contractor.

10.11 Pram and bicycle storage room(s)

These storage rooms should be generally located on the ground floor and easily accessible to residents. If they are located outside the building the access should be realised on the same way as the other building entrances. In order to prevent theft and unwanted borrowing, the room will be fitted with locking fixtures for example rings for locking bicycle.

10.12 The cellars

Cellar areas are often targets of vandalism, burglaries and drug abuse. For that reason the accesses to cellar areas should be handled on the same way as the other buildings entrances (see Annex F).

11 Apartments

11.1 Protection space for ground-level dwellings

At the stage of planning of planting it must be considered, that there are not built any hiding-places for potential criminals. Planted areas should not reduce the surveillance. With specific planting (thorny plants) and appropriate maintenance an additional protection can be reached.

11.2 Accessible windows

Accessible windows are defined as windows to which the burglar can get access to have a good position for the attack, e.g. windows at the ground floor, at balconies. Accessible windows should be conforming to the requirements of ENV 1627, to achieve the required level of protection as shown in Table 2.

11.3 Access to individual flats

Corridors and stairs to apartments should have no hiding-place and must be well-lit.

In some buildings, the access to apartments occurs by means of external corridors or verandas. Verandas and apartment access doors should be well lit.

11.4 Doors to apartments

Doors to apartments should be in accordance with ENV 1627, see Table 2.

Doors to apartments should also have a peephole that allows identification of visitors before the door is opened. A robust safety door chain will make an inspection of visitors and of their documents possible while preventing them to force the door open.

11.5 Letter plates

(see 7.5.4.)

11.6 Anti-intruder alarms

(see 7.6.1.)

11.7 Safes

(see 7.6.2.)

12 Administration and maintenance of buildings in multiple occupancy

12.1 General

The conservation of the building structure, the degree of effectiveness of the available security equipments and the social peace are influenced by the administration, maintenance of multiple occupancy buildings.

Main emphases of the administration are:

- e) Construction and supervision of the rules of the house;
- f) Organisation of the letting out;
- g) Maintenance of the multi occupancy buildings.

12.2 Rules of the house

The rules of the house regulate the living together of the resident and visitors of multi occupancy buildings. The following aspects have to be taken into account particularly: Compliance with quietness and order, use of the common areas, compliance with the safety regulations, organisation of the disposal, cleaning of the common areas, responsibility over the maintenance as well as general behaviour rules etc..

12.3 Organisation of the letting out

The administration tries to create the prerequisites for a good household community by a careful choice of the tenants. The rules of the house are besides other regulations an important constituent of the lease. The non-compliance of the rules of the house knows to sanctions or leads to the dissolving of the tenancy in the extreme case.

For buildings with owner-occupied flats the letting out is organized by the owner.

12.4 Maintenance of the multi occupancy buildings

A good maintenance of the multi occupancy buildings contributes actively to safety reasons. The function of the safety relevant facilities must show a high availability.

Traces of vandalism, litter and graffiti's increase the fear of crime and encourage furthering criminal offences. The elimination of such damages and the cleaning of litter and graffiti's should therefore immediately be carried out.

Annex A (informative)

Requirements on windows, doors and shutters and his hardware in accordance with ENV 1627

The ENV status of ENV 1627 and of the corresponding testing standards ENV 1628, ENV 1629 and ENV 1630 is running out. The ENV were revised and are in the near future when given to EN in the enquiry. The application field was extended; it contains now windows, doors, shutters, façades and grilles.

Table A.1 — Required Locks and hardware

Resistance class according to ENV 1627	1 ¹⁾	2 ¹⁾	3	4	5	6
Lock cylinder according to EN 1303 Required class	4	4	4	5	5 ²⁾	5 ²⁾
Security lock furniture according to EN 1906 Required class	1	2	3	4	4 ²⁾	4 ²⁾
Locks according to EN 12209 Required class	3	3	4	5	5 ²⁾	5 ²⁾
¹⁾ Drill resistance may be omitted in class 1 and 2, if national regulations allow this. Extraction protection in class 1 and 2 must be ensured either by cylinder or by furniture ²⁾ Additional human intervention tests according to EN 1630 are necessary in class 5 and 6						

Table A.2 — Required security glazing according to EN 356

Resistance class in according to ENV 1627	Required class of glazing according to EN 356 ²⁾
1	P4 A
2	P5 A
3	P6 B
4	P7 B
5 ¹⁾	P8 B
6 ¹⁾	P8 B
¹⁾ If the glazing area is greater than the accessible opening (according to EN 1630), the glazing area shall be in accordance with P8 B and additionally tested according to clause 4.5.5 ²⁾ Infillings of other materials shall conform with the requirements of clause 4.5.5	

Table A.3 provides minimum requirements on the level of resistance to typical methods of manual attack by occasional and experienced burglars to try to gain entry.

Table A.3 — Resistance levels to manual attack on doors, shutters and windows

Resistance level	Resistance time (minutes)	Maximum test total time (Minutes)	Possible entry method
1	3	5	Occasional burglar tries to break open the window, door or shutter by using physical violence by kicking, shoulder charging, lifting-up and/or tearing out.
2	3	15	Occasional burglar tries additionally to break open the window, door or shutter, using simple tools e.g. screwdriver, pliers, wedge.
3	5	20	Occasional burglar tries to gain entry using two screwdrivers or more and a crowbar.
4	10	30	Experienced burglar use in addition saws, hammer and chisels, an axe and a portable battery powered drill.
5	15	40	Experienced burglar uses in addition electric power tools e.g. drills, jig, sabre saw and an angle grinder with a maximum diameter 125mm disc.
6	20	50	Experienced burglar uses in addition more powerful electric tools e.g. drills, jig saw, sabre saw and an angle grinder with a 230 mm diameter disc.

Annex B

(informative)

Risk analysis of dwellings vulnerability to the crime of burglary

B.1 Introduction

The level of protection required to reduce the vulnerability of any dwelling to the crime of burglary involves two key factors

- a) The potential significance,
- b) The potential risk of burglary

Assessing the potential significance of the assets to be protected is individualistic and involves perceived fear of crime. Assessing the potential risk of burglary involves the identification of features which could make the dwelling an attractive target to either an opportunist or experienced burglar.

The following risk assessment and analysis successfully combines these two approaches to identify the level of protection required.

NOTE: The risk analysis is based on a list of questions drawn up within the framework of an expert system. Nevertheless, the quotations values given to each question have no compulsory character and may vary with countries and/or according to the object.

B.2 Risk assessment

B.2.1 Potential significance

The questionnaire in Table B.1 should be used to assess the potential significance of burglary depends on the assets to be protected, with answers given in the form of a score selected from a range a associated risk factors, with the total score expressed as a percentage of the maximum value.

B.2.2 Potential risk

Prior to using the potential risk questionnaire, it is important to identify the type of aggressor, i.e. opportunist delinquent or experienced burglar and their type of tools used for the burglary.

For individual dwellings Table B.2 should be used to assess the potential risk of burglary. When the dwelling is in a residential block with a shared entrance(s), the questionnaire shown in Table B.4 should be used to assess the potential risk of break –in.

Both questionnaires follow similar structure:

- a) physical environment of the building
- b) human factors linked to the environment
- c) weaknesses in the building envelope
- d) use of the building
- e) human organization of activities

Answers to relevant questions should be given in the form of a « score » selected from a range of associated risk factors and the sub-totals expressed as a percentage of the maximum value in each section

Factors influencing this choice may, for example, be derived from the section 1 and 2 in Table B.1, or based on the history of local crime in the neighbourhood.

NOTE Both types of aggressors are characterized by the modus operandi and the type of resources used for the burglary.

B.3 Risk analysis

B.3.1 Individual dwellings

The risk assessment findings of the three potential significance sections in Table B.1 and findings relating to the potential risk in Table B.2 should be entered in Table B.3 with each total expressed as a percentage of the maximum value. From this analysis it is possible to distinguish between three levels (1,2,3) of potential significance and risk.

B.3.2 Dwellings in multi-occupancy blocks

The risk assessment findings of the three potential significance sections in Table B.1 and findings relating to the potential risk in Table B.4 should be entered in Table B.5 with each total expressed as a percentage of the maximum value. From this analysis it is possible to distinguish between three levels (1,2,3) of potential significance and risk.

B.4 Determining the level of protection required

The levels of potential significance identified in Table B.1 and potential risk identified in Table B.3 (or Table B.5) should be applied to the matrix shown in Figure B.1, to identify the appropriate level of protection required for the individual dwelling.

		3	3	4	5
Level of potential risk ↑		2	2	3	4
		1	1	2	3
			1	2	3
		Level of potential significance →			

Figure B.1 – Matrix used to determine the level of protection required

NOTE: The values of quotations attributed to each question have been established within the frame of the realization of an expert system, through the consultation of professional teams: they are susceptible of changing in time and in every country according to crime factors.

The risk associated with every factor and also the total for each section (potential danger, potential seriousness) are expressed in percentages of the maximal value. This enables us on the one hand to underline the weak spots of the housing, and on the other hand to locate the final result for each section in three levels.

Example for individual dwelling:

- a) Essential data,
 - type aggressor feared : opportunist delinquent

- house in a village, close to street.
- already burglarised
- value of properties: average
- one dog, no alarm
- ground floor windows: wood frames, wood shutters
- upper floor windows: no shutters
- tile roof with openings
- door burglary resistance: weak

b) Risk analysis individual dwelling with Table B.3

- Total potential significance = $37/102 \times 100 = 37\% = \text{level :2}$
- Total potential risk = $252/439 \times 100 = 57\% = \text{level :2}$

a) Level of protection required

- From Figure B.1 It can be seen that the level of protection required = 3

Table B.1 — Potential significance of burglary depends on the assets to be protected

Parameters for potential significance

1 OBJECTIVE IMPORTANCE				
1.1 Market value of the goods present in the housing				15
High > 50000€	15			
Average 20000 << 50000€	7			
Low < 20000€	1			
1.2 Type of documents on site				14
Official, classified documents	14			
Business related, confidential documents	11			
Private, confidential documents	9			
Ordinary documents	4			
1.3 Irreplaceable goods present in the housing				16
Prototype	12			
Assessed collection	16			
Works of art, historical archives	13			
Precious furniture	13			
Several of the above targets are present	16			
Does not apply	0			
Sub-Total – Objective Importance		(total/ maximal value: 45)		45
Assessment of associated risk		(sub total/ maximal value)	%	
2 INTIMACY OF PREMISES				
2.1 Assessed value of items present in premises				9
High	9			
Average	5			
None / low	1			
2.2 Seriousness of an intrusion without theft or any other wrongdoing in the above premises				13
Always high	13			
High by presence of persons	11			
High by absence of persons	8			
Average in all cases	5			
2.3 Most feared kind of aggression				15
Vandalism	8			
Theft of values or familiar and personal belonging	10			
Physical violence	13			
Theft and physical violence	15			
Sub-Total 2 – Intimacy of premises		(maximal value: 37)		37
Assessment of associated risk		(sub total/ maximal value)	%	
3 TYPE OF AGGRESSOR				
Occasional delinquent	7			
Experienced delinquent	10			
Professional offender	13			
Banditism, terrorism (abduction, violence, murder)	20			
Sub-Total 3 - Type of aggressor feared		(maximal value: 20)		20
Assessment of associated risk		(sub-total/ maximal value)	%	

Table B.2 — Checklist of potential risk of burglary: Individual dwellings

Parameters for potential risk		Occasional Delinquent	Experienced burglar	
1	SITE AND PHYSICAL ENVIRONMENT			
1.1	Housing density over the area			<input type="text"/> 12
	The area is :			
	Low built	12	12	
	Average built	7	7	
	Density built	1	1	
1.2	Access and road network			<input type="text"/> 14
	Multiple accesses from several streets, close to an intersection	10	14	
	At street level, double way street	6	10	
	By one way road or cull de sac	3	5	
1.3	Characteristics of accesses			<input type="text"/> 15
	Served by a public way	11	15	
	Served by a semi public way	8	12	
	Served by a private way	5	9	
	Under human or physical control	1	3	
1.4	Immediate vicinity of the building			<input type="text"/> 11
	Isolated building	11	11	
	House on one side	8	8	
	Houses on two or three sides	6	6	
	Houses all around	4	4	
1.5	Presence of plantation liable to mask a criminal act			<input type="text"/> 7
	Yes, from public way and other buildings	7	7	
	Yes, only from public way	5	5	
	Yes, only from the other buildings	3	3	
	Without mask	0	0	
1.6	High level of noise in the vicinity			<input type="text"/> 9
	Yes	9	9	
	No	0	0	
1.7	Site openings over railway line or river, a wooded area			<input type="text"/> 13
	Yes	13	13	
	No	0	0	
	Sub-Total 1 - Site and physical environment		(highest value : 81)	<input type="text"/> 81
	Assessment of associated risk		(sub total / maximal value)	<input type="text"/> %

Continued

Table B.2 (continued)

Parameters for potential risk		Occasional Delinquent	Experienced burglar	
2	HUMAN AND SOCIAL FACTORS OF THE ENVIRONMENT			
2.1	Type of urban planning of the site			<input type="text"/> 13
	New town, area with a majority of individual dwellings	13	13	
	Isolated house	11	11	
	Unstructured estate	8	8	
	Hamlet, village or small town	4	4	
	Individual dwellings estate (with access control and permanent human watched control)	2	2	
2.2	Type of neighbourhood			<input type="text"/> 11
	Second home	11	11	
	No neighbours (Isolated house)	10	10	
	Multi occupancy blocks	8	8	
	Residential area, estate	5	5	
	Village type urban planning	3	3	
2.3	Crime History of the area			<input type="text"/> 15
	Violence against individuals	15	15	
	Important and permanent drug and/ or neglect problem	13	13	
	Burglary against neighbours and on site < 5 years	11	11	
	Burglary against neighbours < 5 years	9	9	
	Burglary on site < 5 years	7	7	
	No burglary reported	0	0	
2.4	Neighbouring			<input type="text"/> 11
	No relation with immediate neighbours	11	11	
	Limited acquaintance with neighbours	7	7	
	Friendly relations with immediate neighbours	0	0	
	Sub total 2 – Human and social factors of the environment	(maximal value: 50)		<input type="text"/> 50
	Assessment of associated risk	(sub total / max. value)		<input type="text"/> %

Continued

Table B.2 (continued)

Parameters for potential risk		Occasional Delinquent	Experienced burglar	
A 3	USE OF THE BUILDING			
3.1	Occupancy status			
	Tenant	8	8	8
	Landlord	4	4	
3.2	Access and parking close to the house (vehicles)			
	Vehicles liable to access a concealed area	11	13	13
	Free access	8	10	
	Controlled vehicles (residence under watch)	1	2	
3.3	Access and presence close to the house (pedestrian)			
	Pedestrians over concealed areas	11	13	13
	Free pedestrian	8	10	
	Controlled pedestrian (secured estate)	1	2	
3.4	Occupancy habits			
	Regular habits	11	13	13
	Irregular habits	1	3	
	Seasonal occupancy	11	13	
	Sub-Total 3 – Use of the building		(maximal value : 47)	47
	Assessment of associated risk		(sub total / maxi. value)	%

Continued

Table B.2 (continued)

Parameters for potential risk		Occasional Delinquent		Experienced burglar	
A 4	PHYSICAL CHARACTERISTICS OF BUILDING				
4.1	OUTBUILDINGS				
4.1.1	Presence of a cellar, of basement parts or attached garage			<input type="text"/>	11
	Yes	11	11		
	No	0	0		
	Sub-Total 4.1 – Outbuildings	<i>(maximal value : 11)</i>		<input type="text"/>	11
	Assessment of associated risk	<i>(sub total / maximal value)</i>		<input type="text"/>	%
4.2	THE ROOF (one item should be chosen, 4.2.1, 4.2.2 or 4.2.3)				
4.2.1	Easily accessible roof				
	4.2.1.1. Roof resistance			<input type="text"/>	13
	Low (tiles)	13	13		
	Average (asphalt shingle-boards, slates)	9	9		
	High (terraced roof)	1	1		
	4.2.1.2. Size of roof openings			<input type="text"/>	13
	A rectangle more than 40x25 cm, an ellipse of 40x30cm, a circle of diameter of 35cm	13	13		
	Under the values above	7	10		
	No openings or burglar resistant roof windows (ENV 1627)	1	1		
4.2.2	Accessible roof				
	4.2.2.1. Resistance of roof			<input type="text"/>	9
	Low (tiles)	9	9		
	Average (asphalt shingle-boards, slates)	6	6		
	High (terraced roof)	0	0		
	4.2.2.2. Size of roof openings			<input type="text"/>	11
	A rectangle more than 40x25 cm, an ellipse of 40x30cm, a circle of diameter of 35cm	11	11		
	Under the values above	6	6		
	No openings or burglar resistant roof windows (ENV 1627)	1	1		
4.2.3	Uneasily accessible roof				
	4.2.3.1. Resistance of roof			<input type="text"/>	6
	Low (tiles)	6	6		
	Average (asphalt shingle-boards, slates)	3	3		
	High (terraced roof)	0	0		
	4.2.3.2. Size of roof openings			<input type="text"/>	9
	A rectangle more than 40x25 cm, an ellipse of 40x30cm, a circle of diameter of 35cm	9	9		
	Under the values above	4	4		
	No openings or burglar resistant roof windows (ENV 1627)	0	0		
	Sub total 4.2 - Roof	<i>(maximal value : 26)</i>		<input type="text"/>	
	Assessment of associated risk	<i>(sub total / maximal. value)</i>		<input type="text"/>	%

Continued

Table B.2 (continued)

Parameters for potential risk		Occasional Delinquent		Experienced burglar
4.3	WINDOWS AND FRENCH WINDOWS			
4.3.1	Presence french windows			<input type="text"/> 12
	Yes	12	12	
	No	0	0	
4.3.2	Accessibility of visible windows and French windows			<input type="text"/> 13
	Easily accessible without climbing, unprotected	13	13	
	Accessible by climbing	5	11	
	Inaccessible or fitted with window bars or with inside grill	0	1	
4.3.3	Windows on rear side or non visible			<input type="text"/> 15
	Easily accessible without climbing, unprotected	15	15	
	Accessible by climbing	7	13	
	Inaccessible or fitted with window bars or with inside grill	1	5	
4.3.4	Presence of shutters /strong glassing on easily accessible openings			<input type="text"/> 16
	No shutters or security glazing	13	16	
	Low resistance shutters and double glazing	11	15	
	Burglar resistant shutters (ENV 1627) or security glazing (EN 356)	7	11	
	Burglar resistant shutters (ENV 1627) and security glazing (EN 356)	1	5	
	Sub-Total 4.3 - Windows		(maximal value: 56)	<input type="text"/> 56
	Assessment of associated risk		(sub total / maximal value)	<input type="text"/> %
4.4	EXTERNAL DOORS			
4.4.1	Number of external doors			<input type="text"/> 13
	More than 2 external doors	13	13	
	2 external doors	9	9	
	One single external door	1	1	
4.4.2	Presence of external doors in concealed areas			<input type="text"/> 13
	Yes	13	13	
	No	0	0	
4.4.3	Break-in resistance of the weakest external door of the house			<input type="text"/> 20
	Very low (no classification)	18	20	
	Low (no classification)	13	15	
	Acceptable (ENV 1627)	7	9	
	Strong (ENV 1627)	3	5	
	Very strong (ENV 1627)	0	0	
	Sub-Total 4.4 – External doors		(maximal value : 46)	<input type="text"/> 46
	Assessment of associated risk		(sub total / maximal value)	<input type="text"/> %

Continued

Table B.2 (continued)

Parameters for potential risk		Occasional Delinquent	Experienced burglar				
SUMMARY FO PHYSICAL CHARACTERISTICS OF THE BUILDING							
		SCORE	MAXIMAL VALUE				
			PERCENT AGE				
4.1	<i>Outbuildings</i>		11 %				
4.2	<i>Roof</i>		26 %				
4.3	<i>Windows</i>		56 %				
4.4	<i>External doors</i>		46 %				
Sub-Total A 4 – Physical characteristics of the building			<i>(maxi value: 139)</i>				
Assessment of associated risk			<i>(sub total / maximal value)</i>				
			<table border="1" style="width: 100%; height: 41px;"> <tr> <td style="width: 80%;"></td> <td style="width: 20%; text-align: right;">139</td> </tr> <tr> <td></td> <td style="text-align: right;">%</td> </tr> </table>		139		%
	139						
	%						

Continued

Table B.2 (continued)

Parameters for potential risk		Occasional Delinquent		Experienced burglar	
A 5	HUMAN ORGANIZATION OF ACTIVITIES				
5.1	ACCESS CONTROL				
5.1.1	Boundary between public and private space			<input type="text"/>	14
	Non existing	12	14		
	Existing boundary	6	8		
	No public space	0	0		
5.1.2	Access control for visitors			<input type="text"/>	15
	absence of access control	13	15		
	Access control by habitants, e.g. two-way communication	7	10		
	Human or technical access control	2	4		
5.1.3	Lighting of accesses			<input type="text"/>	15
	Absence of lighting	13	15		
	Public lighting only	11	13		
	Detection lighting on façades	7	10		
	Detection lighting on all accesses	2	4		
	Sub-Total 5.1 – Access control		(maxi. value :44)	<input type="text"/>	44
	Assessment of associated risk		(sub total / maximal value)	<input type="text"/>	%
5.2	GENERAL REMARKS ON HUMAN ORGANIZATION				
5.2.1	Outlook of the house tending to increase its vulnerability			<input type="text"/>	13
	Wealthy	10	13		
	Well off appearance	7	10		
	Local type house	5	5		
5.2.2	Visitor impression on maintenance and tidiness of the premises			<input type="text"/>	12
	Low	12	12		
	Average	6	6		
	Good	1	1		
5.2.3	General maintenance level of openings (gates, doors, windows)			<input type="text"/>	14
	Low	12	14		
	Average	6	8		
	Good	1	3		
5.2.4	Easiness to know if the house is unoccupied (letter box, direct view)			<input type="text"/>	13
	Yes	13	13		
	No	1	1		
	Sub-Total 5.2 – General remarks on human organization		(maximal value: 49)	<input type="text"/>	49
			(sub total/ maximal value)	<input type="text"/>	%

(continued)

Table B.2 (concluded)

Parameters for potential risk		Occasional Delinquent	Experienced burglar	
5.3	PROTECTION OF VALUABLES			
5.3.1	Presence of guard or warning animals/pets			<input type="text"/> 8
	Yes	1	1	
	No	8	8	
5.3.2	Level of anti-intrusion alarm			<input type="text"/> 14
	None	12	14	
	Non certified intruder alarm system without transmission	9	13	
	Certified intruder alarm system with transmission	0	9	
5.3.3	Presence of a safe holding the valuables			<input type="text"/> 7
	No	7	7	
	Yes	0	0	
	Sub-Total 5.3 - Protection of valuables	(maximal value :29)		<input type="text"/> 29
	Assessment of associated risk	(sub total / maximal value)		<input type="text"/> %

SUMMARY OF HUMAN ORGANIZATION OF ACTIVITIES

	Score	Maximal value	Percentage	
5.1	Access control	44	%	
5.2	General remarks on human organization	49	%	
5.3	Protection of valuables	29	%	
	Sub-Total A 5 – Human organization of activities	(maximal value : 122)		<input type="text"/> 122
	Assessment of associated risk	(sub total / maximal value)		<input type="text"/> %

Table B.3 — Risk analysis: Individual dwelling

Summary of Table B.1.- POTENTIAL SIGNIFICANCE		Score	Maximal value	Percentage
1 Objective importance				
	Sub-Total 1 I		45	
2 Intimacy of premises				
	Sub-Total 2 I		37	
3 Type of aggressor				
	Sub-Total 3 I		20	
TOTAL POTENTIAL SIGNIFICANCE			102	%
Level 1	< 25% of the maximum quotation			
Level 2	25 à 40 %			
Level 3	> 40 %			

Summary of Table B.2.-POTENTIAL RISK		Score	Maximal value	Percentage
1 Site and physical environment				
	Sub-Total 1		81	%
2 Human and social factors of the environment				
	Sub-Total 2		50	%
3 Use of building				
	Sub-Total 3		47	%
4 Physical characteristics of the building				
4.1	Outbuildings		11	%
4.2	Roof		26	%
4.3	Windows		56	%
4.4	External doors		46	%
	Sub-Total 4		139	%
5 Human organization of the activities				
5.1	Access control		44	%
5.2	General issues on human organization		49	%
5.3	Protection of valuables		29	%
	Sub-Total 5		122	%
TOTAL POTENTIAL RISK			439	%
Level 1	< 30% of the maximum quotation			
Level 2	30 to 60 %			
Level 3	>60%			

Table B.4 — Checklist of potential risk of burglary: Dwelling in a multi-occupancy block

Parameters for potential risk of burglary

		Occasional delinquent	Experienced burglar		
1	SITE AND PHYSICAL ENVIRONMENT				
1.1	Building density over the area			<input type="text"/>	12
	The area is :				
	Density built	12	12		
	Average built	7	7		
	Low built	1	1		
1.2	Accesses and road network			<input type="text"/>	14
	Multiple accesses from several roads, close to an intersection	10	14		
	At street level, double way street	8	12		
	By one way road or cull de sac	3	5		
1.3	Characteristic of accesses			<input type="text"/>	15
	Served by a public way	11	15		
	Served by a semi public way	8	12		
	Served by a private way	5	9		
	Under human or physical control	1	3		
1.4	Immediate vicinity of the building			<input type="text"/>	10
	Isolated building	10	10		
	Building on one side	7	7		
	Buildings on 2 or 3 sides	5	5		
	Buildings all around	2	2		
1.5	Presence of plantation liable to mask a criminal act			<input type="text"/>	7
	Yes, from public way and other buildings	7	7		
	Yes, only from public way	5	5		
	Yes, only from the other buildings	3	3		
	Without mask	0	0		
1.6	High level of noise in the vicinity			<input type="text"/>	5
	Yes	5	5		
	No	0	0		
1.7	Site opening on a railway line, a river, a wooded area			<input type="text"/>	9
	Yes	9	9		
	No	0	0		
Sub-Total 1 - Site and physical environment		(maximal value: 72)		<input style="border: 2px solid black;" type="text"/>	72
Assessment of associated risk		(sub total / maximal value)		<input style="border: 2px solid black;" type="text"/>	%

(continued)

Table B.4 (continued)

Parameters for potential risk of burglary

Parameters for potential risk of burglary		Occasional delinquent	Experience of burglar		
2	HUMAN AND SOCIAL FACTORS FOR THE ENVIRONMENT				
2.1	Type of urban planning of the site				13
	New town, area with a majority of multi occupancy blocks	13	13		
	Old town centre	11	11		
	Peripheral urban planning with a majority of private housing	8	8		
	Small town, village type	4	4		
2.2	Type of neighbourhood				13
	Industrial wasteland	13	13		
	Big commercial centres	11	11		
	Residential area	8	8		
	Council housing area	5	5		
	Other case	3	3		
2.3	History of crime over the area				15
	Violence's against individuals	15	15		
	Important and permanent drug and/or social problems	13	13		
	Burglary on site < 5 years	9	9		
	Burglary against the neighbourhood < 5 years	7	7		
	Burglary against neighbours and on site < 5 years	11	11		
	No burglary reported	0	0		
2.4	Nature of the vicinity				11
	Defaced dwelling	11	11		
	Unoccupied or squatted premises	10	109		
	Businesses activity (empty during the night)	90	9		
	Buildings with some unoccupied premises	6	6		
	Building and neighbouring premises regularly occupied	1	1		
2.5	Neighbouring				11
	No relation with immediate neighbours	11	11		
	Limited acquaintance with neighbours	7	7		
	Friendly relations with immediate neighbours	0	0		
	Sub-Total 2 – Human and social factors of the environment		(maximal value 63)		63
	Assessment of associated risk		(sub total/ maximal value)		%

(continued)

Table B.4 (continued)

Parameters for potential risk of burglary

		Occasional delinquent	Experience of burglar		
3	USE OF THE BUILDING				
3.1	Occupancy status				8
	Tenant	8	8		
	Landlord	4	4		
3.2	Maintenance of security and safety facilities of building				15
	Low	15	15		
	Average	8	8		
	Good	1	1		
3.3	Access to residence or building : vehicles				12
	Free	8	12		
	Access control system	3	6		
	Human access control	1	4		
3.4	Access to residence or building : Pedestrians				13
	Free access	9	13		
	Access control system	4	7		
	Human watched access	1	4		
3.5	Visitors car park				18
	Parking less than 20 m to the building	12	18		
	Parking more than 20 m to the building	6	12		
	Park outside the site	0	1		
3.6	General level of lighting on the area (access, entrance of the building)				18
	Insufficient	12	18		
	Average	6	12		
	Good	0	1		
3.7	Entrance –exit shared between several residences				10
	Yes	10	10		
	No	0	0		
Sub-Total 3 – Use of the building			(maximal value: 94)		94
Assessment of associated risk			(sub total / maximal value)		%

(continued)

Table B.4 (continued)

Parameters for potential risk of burglary

		Occasional delinquent	Experienced burglar		
4	PHYSICAL CHARACTERISTICS OF BUILDING				
4.1	WALLS				
4.1.1	Resistance of inner walls (between flats)				8
	Weak (plaster tile)	8	8		
	Average (hollow breeze block, brick)	6	6		
	Strong (full breeze block, concrete)	2	2		
4.1.2	Resistance of corridor's walls				7
	Weak, average	7	7		
	Strong	2	2		
	Sub-Total 4.1 - Walls		(maximal value: 15)		15
	Assessment of associated risk		(sub total / maximal value)		%
4.2	ROOFING				
4.2.1	Resistance of roof windows opening to flats				13
	Low	13	13		
	Average	7	10		
	Burglar resistant elements	1	5		
	N.A.	0	0		
4.2.2	Resistance of roof windows opening to common areas				13
	Low	13	13		
	Average	7	10		
	Burglar resistant elements	1	5		
	N.A.	0	0		
	Sub-Total 4.2 - Roof		(maximal value: 26)		26
	Assessment of associated risk		(sub total / maximal value)		%
4.3	WINDOWS (BAY WINDOWS, WINTER GARDEN)				
4.3.1	Accessibility of windows and fixed glazings				15
	Easily accessible without climbing	15	15		
	Accessible by climbing	5	11		
	Hardly accessible	0	1		
4.3.2	Window on front or courtyard				16
	Easily opening accessible (ground floor, courtyard, other floor)	12	16		
	Not opening or barred or with grill.	1	5		
4.3.3	Shutters / security glazing on easily accessible windows				16
	No shutter nor security glazing	13	16		
	Shutters or security glazing	4	6		
4.3.4	Resistance of shutters or security glazing (including fittings)				15
	normal shutters no security glazing	11	15		
	Burglar resistant shutters (ENV 1627) or security glazing (EN 356)	7	11		
	Burglar resistant shutters (ENV 1627) and security glazing (EN 356)	1	5		
	NA	0	0		
	Sub-Total 4.3 - Windows		(maximal value: 62)		62
	Assessment of associated risk		(sub-total / maximal value)		%

(continued)

Table B.4 (continued)

Parameters for potential risk of burglary

		Occasional delinquent	Experience of burglar		
4.4	ACCESS TO BUILDING				
4.4.1	Building without a car park				16
	Direct entrance without access control	16	16		
	Entrance with technical access control	7	11		
	Entrance with human access control	3	5		
4.4.2	Building with a car park				16
	Direct access from parking area	16	16		
	No direct access from parking area	7	11		
	Direct access to floors by technical access control	3	5		
4.4.3	Burglar resistance of the access door				16
	Low (no classification according to ENV 1627)	12	16		
	Average (ENV 1627)	7	11		
	Strong (ENV 1627)	1	5		
4.4.4	Presence of outside openings in concealed areas				11
	Yes	11	11		
	No	0	0		
4.4.5	Access to cellars from inside the building				5
	Free	5	5		
	Under access control	0	0		
Sub-Total 4.4 – Access to building		(maximal value: 64)			64
Assessment of associated risk		(sub total / maximal value)			%

(continued)

Table B.4 (continued)

Parameters for potential risk of burglary

		Occasional delinquent	Experience of burglar		
4.5	PRIVATE ACCESS DOORS				
4.5.1	The new occupants have changed the lock cylinder of the private entrance door			<input type="text"/>	11
	No	11	11		
	Yes	2	2		
4.5.2	Access to flat			<input type="text"/>	11
	Through outside and common parts	11	11		
	Through outside of the building only	7	7		
	Through inner common parts only	1	1		
4.5.3	Burglar resistance of private entrance doors			<input type="text"/>	15
	Low (no classification according to ENV 1627)	11	15		
	Average (ENV 1627)	6	10		
	Strong (ENV 1627)	1	5		
	Sub-Total 4.5 – Private entrance doors		(maximal value: 37)	<input type="text"/>	37
	Assessment of associated risk		(sub total / maximal value)	<input type="text"/>	%

SUMMARY PHYSICAL CHARACTERISTICS OF BUILDING

		Score	Maximal value	Percentage	
4.1	Walls		15	%	
4.2	Roofing		26	%	
4.3	Windows		62	%	
4.4	Access to building		64	%	
4.5	Private access doors		37	%	
	Sub-Total 4 –Physical characteristics of the building		(maximal value: 204)		<input type="text"/> 204
	Assessment of associated risk		(sub-total / maximal value)		<input type="text"/>

(continued)

Table B.4 (continued)

Parameters for potential risk of burglary

		Occasional delinquent	Experience of burglar		
5	HUMAN ORGANIZATION OF ACTIVITIES				
5.1	ACCESS CONTROL				
5.1.1	Partition between private and public space			<input type="text"/>	15
	Non existing	12	15		
	Existing	6	9		
	No public space	0	0		
5.1.2	Access control for visitors			<input type="text"/>	15
	Absence of access control	13	15		
	Average access control	7	10		
	Good access control	2	4		
5.1.3	Outside lighting			<input type="text"/>	15
	Absence of lighting	13	15		
	Public lighting only	11	13		
	Sufficient lighting until entrance	7	10		
	Detection lighting on all accesses	2	4		
5.1.4	Lighting of common areas			<input type="text"/>	15
	Low lighting	13	15		
	Sufficient detection lighting	7	10		
	Additional permanent lighting of sensitive areas	2	4		
5.1.5	Key management			<input type="text"/>	15
	Poor	11	15		
	Average	7	11		
	Good	0	0		
	Sub-Total 5.1 – Access control		(maximal value: 75)	<input style="border: 2px solid black;" type="text"/>	75
	Assessment of associated risk		(sub total /maximal value)	<input type="text"/> %	
5.2	GENERALREMARKS ON HUMAN ORGANIZATION				
5.2.1	Visitor's impression on maintenance and management of common areas			<input type="text"/>	12
	Low	12	12		
	Average	6	6		
	Good	1	1		
5.2.2	Defacement is immediately repaired			<input type="text"/>	13
	No	13	13		
	Yes	1	1		
5.2.3	Easiness to know if the flat is unoccupied (letter box, direct view...)			<input type="text"/>	10
	Yes	10	10		
	No	0	0		
	Sub-Total 5.2 – Generalities on human organization		(maximal value: 35)	<input style="border: 2px solid black;" type="text"/>	35
				<input type="text"/>	

(continued)

Table B.4 (continued)

Parameters for potential risk of burglary

		Occasional delinquent	Experience of burglar		
5.3	CHARACTERISTICS CONNECTED WITH PERSONS AND VISITORS				
5.3.1	Status of building users			<input type="text"/>	15
	Night time business activity	15	15		
	Business activities (daily)	12	12		
	Profession	10	10		
	Housing only	5	5		
5.3.2	Frequent comings and goings from the users			<input type="text"/>	6
	Yes	6	6		
	No	0	0		
5.3.3.	Usual flat occupation			<input type="text"/>	15
	Regular use	11	15		
	Non regular use	1	5		
	Season occupation	11	15		
	Sup-Total 5.3 – Characteristics connected to persons and visitors		(maximal value: 36)	<input type="text"/>	36
	Assessment for associated risk		(sub total / maximal value)	<input type="text"/>	%
5.4	PROTECTION OF VALUABLES				
5.4.1	Presence of guard or alarm animals /pets			<input type="text"/>	8
	Yes	1	1		
	No	8	8		
5.4.2	Level of anti-intrusion alarm			<input type="text"/>	16
	None	12	16		
	Non certified intruder alarm system without transmission	9	13		
	Certified intruder alarm system with transmission	6	11		
5.4.3.	Presence of a safe holding the valuables			<input type="text"/>	7
	No	7	7		
	Yes	0	0		
	Sub-Total 5.4 - Protection of valuables		(maximal value: 31)	<input type="text"/>	31
	Assessment of associated risk		(sub total / maximal value)	<input type="text"/>	%

(continued)

Table B.4 (concluded)

SUMMAR HUMAN ORGANIZATION OF ACTIVITIES				
		Score	Maximal value	Percentage
5.1	<i>Access control</i>		75	%
5.2	<i>General issue human organization</i>		35	%
5.3	<i>Characteristics persons and visitors</i>		36	%
5.4	<i>Protection of valuables</i>		31	%
Sub-Total 5 –Human organization of activities			(maximal value: 177)	<input type="text"/> 177
Assessment of associated risk			(sub total /maximal value)	<input type="text"/> %

Table B.5 — Risk analysis : Dwelling in multi-occupancy blocks

POTENTIAL SIGNIFICANCE		Score	Maximal value	Percentage
1	Objective importance			
	Sub-total 1		45	%
2	Intimacy of premises			
	Sub-total 2		37	%
3	Type of aggressor			
	Sub-total 3		20	%
	TOTAL POTENTIAL SIGNIFICANCE		102	%
Level 1	< 25 % of the maximum score			
Level 2	25 to 40%			
Level 3	> 40%			
POTENTIAL RISK		Score	Maximal value	Percentage
1	Site and physical environment			
	Sub-Total 1		72	%
2	Human and social factors of the environment			
	Sub-Total 2		63	%
3	Use of building			
	Sub-Total 3		94	%
4	Physical characteristics of the building			
4.1	Walls		15	%
4.2	Roofing		26	%
4.3	Windows		62	%
4.4	Access to building		64	%
4.5	Private access doors		37	%
	Sub-Total 4		204	%
5	Human organization of the activities			
5.1	Access control		75	%
5.2	General remarks on human organization		35	%
5.3	Characteristics connected with persons and visitors		36	%
5.4	Protection of valuables		31	%
	Sub-Total 5		177	%
TOTAL POTENTIAL RISK			610	%
	< 30% of the maximum quotation			
	30 to 60 %			
	>60%			

Annex C (informative)

Quick reference guide to the vulnerability of dwellings to burglary

Table C.1 — Provides guidance on risk factors relating to the vulnerability of individual dwellings to burglary

Environment	Feature	Very high	High	Medium	low	Very low
Structure of dwelling	Mobile or temporary			2,0		
	Timber or other lightweight materials					0,5
	Stone, brick or concrete					0
Quality of doors	Untested element, no upgrade possible	3,0				
	Untested element, upgrade possible			1,5		
	Tested element according to ENV 1627					0
Quality of windows	Untested element, no upgrade possible	3,0				
	Untested element, upgrade possible			1,5		
	Tested element according to ENV 1627					0
Location of dwelling	Inner city	5,0				
	Remote isolated premises	4,0				
	Edge of large town or city			2,0		
	Small town				1,0	
	Village					0
Characteristics of the neighbourhood	Run – down			1,5		
	Well appointed					0,5
	Average					0
Access and motion of vehicles to/from dwelling	Easy	3,0				
	Moderately difficult				1,0	
	Difficult					0
Pedestrian access to the rear and sides of dwelling	Easy	3,0				
	Moderately difficult				1,0	
	Difficult					0
Hours of occupancy	Long periods of no occupation	4,0				
	Regular defined periods of no occupation	3,5				
	Irregular lengthy periods of no occupation	3,0				
	Short periods of no occupation			2,0		
	Permanent occupation					0
Occupancy hours of adjacent premises	Unoccupied		2,5			
	Partially occupied			1,5		
	Fully occupied					0
Sight offered to passers- by	Building totally obscured from view	4,0				
	Few passer-by or distant view	3,0				
	One or more vulnerable elevations		2,5			
	Vulnerable elevations open to full view			1,5		
	All elevations open to full view					0
Level of lighting provided	Dwelling and adjacent areas poorly lit		2,5			
	Dwelling well lit but adjacent areas poorly			1,5		
	Dwelling and adjacent areas well lit					0
Level of anti-intrusion alarm	None	3,0				
	Basic			2,0		
	Extensive				1,0	
	Extensive including alarm transfer to a 24h-service					0
Level of previous loss for the dwelling	High		2,5			
	Medium			1,5		
	Low					0
NOTE:	If it is felt that a risk factor is not applicable in specific cases the default risk should be taken as zero for that category					

Table C.2 lists crime prevention measures to enhance the security of individual dwellings.

Table C.2 — Crime prevention measures to enhance the security of individual dwellings

Protection level	Cumulative risk factor	Level of risk	Action to be taken
1	<14	Very low	No additional protective measures required
2	14 – 19	Low	Additional physical protective measures required.
3	20 – 23	Average	Additional physical + limited electronic protection measures required
4	24 – 27	High	Extensive physical + medium electronic protection measures required
5	>27	Very high	Extensive physical + extensive electronic protection measures required

NOTE Recommended physical and electronic protection measures only relate to the interior of the dwelling. The installation of external electronic, optical, or optoelectronic intruder detection measures should also be considered on the periphery of the site (e.g. reinforced gate, detection on fences, CCTV, etc) for levels 4 and 5

Table C. 3 lists additional risk factors applicable to dwellings in a multi-occupancy blocks

Table C.3 — Additional risk factors applicable to dwellings in a multi occupancy blocks

Environment	Feature	Very high	High	Medium	Low	Very low
Level of access control of external doors	External doors are never closed	4,0				
	External access are part time closed		2,5			
	External access are 24h closed (key)			1,5		
	External access are 24h closed, with access control system					0
Level of concierge / security guard provision	None	4,0				
	Limited attendance at entrances		2,5			
	Daytime attendance at entrances			1,5		
	Daytime attendance + part-time night					0,5
	24 h attendance					0
Level of CCTV provision/observation of entrances and high risk areas	None	3,5				
	Part-time observer of strategic elevations and entrances			2,0		
	Full-time observer of strategic elevations and entrances				1,0	
	Part-time observer of all external elevations entrances and walkways					0,5
	Full-time observer of all external elevations entrances and walkways					0

NOTE 1 If it is felt that a risk factor is not applicable in specific cases the default risk should be taken as zero for that category

NOTE 2 Other factors may be included for specific risks, such as the number of dwelling units and/or the number of units using an entrance/staircase/balcony etc.

Table C.4 lists measures required to enhance the security of a multi occupancy blocks

Table C.4 — Examples measures required to enhance security of a residential block with a shared entrance

Level	Cumulative risk factors	Level of risk	Action to be taken
1	< 2,5	Very low	Part-time surveillance of entrances required
2	>2,5 to <4,0	Low	Part-time surveillance of entrances and strategic elevations required
3	>4,0 to <6,0	Average	Full-time surveillance of entrances and strategic elevations required
4	>6,0 to <8,0	High	Access control + part-time surveillance of all elevations, entrances and walkways required
5	>8,00	Very high	Access control system + 24 h surveillance of all elevations, entrances and walkways required.

Annex D (informative)

Security grades of intrusion alarm systems in EN 50131-1

Table D.1 provides guidance on security grades of intrusion alarm systems in relation to risk, to combat the technical expertise and range of devices used by experienced burglar.

Table D.1 — Security grades of intrusion alarm systems

Security grades	Type of risk	Know-how and range of devices used by burglar
1	Low risk	The intruders are supposed to have little knowledge of intrusion alarm systems and to have a limited range of easily available tools at their disposal.
2	Low to average risk	The intruders are supposed to have a limited knowledge of intrusion alarm systems and use a common range of portable tools and instrumentation, like a multimeter.
3	Average to high risk	The intruders are supposed to know intrusion alarm systems and have a full range of tools and electronic devices at their disposal.
4	High risk	To be resorted to if security is to be the priority above any other factor. The intruders are supposed to have the capacity and resources to plan an intrusion in detail and have a full range of devices at their disposal, including substitution elements for the vital components of an intrusion alarm system.

Annex E (informative)

Typical indicators of security problems in buildings in collective housing

Table E.1 gives typical indicators relating to security problems associated with residential blocks in multiple occupancy (see 12.1)

Table E.1 — Indicators of typical security problems associated with residential blocks

INCIVILITY :

- refuse left outside, or thrown any where,
- foul smells, dog's ordure, urine, spittle,
- dirt on walls and ceilings, empty beer cans and bottles
- deliberate interruption of lifts.

DISTURBANCES :

- daytime and night-time noise nuisance,
- neighbourhood conflicts, quarrels, alcoholism,
- hygiene and pets problems.

PETTY DEGRADATIONS :

- graffiti, tagging,
- vandalised letter boxes, broken windows,
- degradation of small material : intercom, luminaries,...
- destruction of access control and/or restriction devices.

GANG GATHERINGS :

- small meetings in building halls or common areas,
- small gatherings with degradation,
- gatherings with aggressive attitudes.

DAMAGE TO PROPERTIES :

- broken access doors,
- arson,
- degradation of vehicles,
- car theft, theft, burglary, concealment of stolen goods,...
- destruction of various city appliances.

ASSAULT ON PERSONS :

- abusive language, threats,
- aggression without weapon,
- aggression with weapon
- family violence
- child abuse

DRUG ADDICTION:

- cannabis use,
- cannabis use and trafficking (suspicious persons seen moving on and off),
- presence of heroine (needles, "heroine injection kit"),
- other kinds of drug use and trafficking.

VARIOUS TRAFFICKING:

- dismantling and trafficking of motorcycles or mopeds,
- car repair activities on parking lots and common areas,
- abandoned vehicles or wrecks
- discovery of hidden goods,
- concealment of stolen goods.

URBAN VIOLENCES:

- car "racing" and "joy riding",
- burnt car wreck,
- objects being thrown at the police, firemen, paramedics, postmen,
- gang fight,
- pit bulls and other aggressive dogs,
- discovery of incendiary devices, weapons, projectiles.

OTHER:

- to be specified

Annex F (informative)

Cost/benefit checklist of methods to enhance security in residential blocks

Table F.1. provides a checklist of methods to enhance security in residential blocks

Table F.1 — Cost/benefit checklist of methods to enhance security in residential blocks

LOCATION/SOLUTION PROPOSED	ARGUMENTS	COMMENTS
Common areas : <ul style="list-style-type: none"> • permanent lighting • Reduction of hall space • Overhaul and transparency of halls • CCTV in halls • Elimination of useless nooks and crannies • Use of anti-vandalism products (paint, letter boxes) 	<p>Low investment Reduced maintenance costs Easy maintenance</p> <p>Low investment « squatting » will vanish</p> <p>Space valorised transparency is a deterrent to gatherings</p> <p>Security reinforced by tenants</p> <p>Maintenance easier</p> <p>Maintenance easier resistance to vandalism</p>	<p>Real efficiency re. feeling of insecurity (fear of crime)</p> <p>Less attractive halls</p> <p>Watch out for window glazing dimensions</p> <p>Risk of peeping-Tom syndrome real efficiency on sensitive spot watch out for restrictive requirements on implementation further to legislation</p> <p>Fear of crime reduced</p>
Access door : <ul style="list-style-type: none"> • access control • Electromagnetic locking door + security laminated glazing 	<p>Privatisation of halls</p> <p>No machinery</p>	<p>Inadequate solution in case of strong density or if problem caused by an insider (tenant)</p>
Dwelling : <ul style="list-style-type: none"> • High-tech housing (domotics) (anti-intrusion devices) <p>Tested Building parts ENV 1627</p> <ul style="list-style-type: none"> • Doors • Windows • Shutters 	<p>Someone will be contacted in case of intrusion</p> <p>Makes people feel more secure</p>	<p>High efficiency if information correctly transmitted and if person in charge is available</p>

continued

Table F.1 (continued)

LOCATION/SOLUTION PROPOSED	ARGUMENTS	COMMENTS
<p>Underground parking :</p> <ul style="list-style-type: none"> • Parking doors with access control - classical key - code - Electronic key (infra-red box) with single code • Human surveillance • Permanent lighting • White paint on walls • No nook with lack of visibility 	<p>No risk of losing key</p> <p>Key loss can be processed (after loss statement, key is de-activated)</p> <p>If correctly carried out, can be efficient</p> <p>No heavy investment</p> <p>More efficient lighting cleanliness of walls</p> <p>Deterrent to intruders and makes users feel safer as no hiding place is available</p>	<p>Inefficient in case of large parking space</p> <p>Code to be changed periodically</p> <p>Expensive, difficult to transfer on tenants' expenses</p> <p>Really efficient contribution to « safety feeling »</p> <p>Same as above</p> <p>Solution to be implemented only on new building or on restored premises</p>
<p>Surface parking :</p> <ul style="list-style-type: none"> • Reinforcement of lighting • Human surveillance • Partition by means of boxes 	<p>Efficient to see better</p> <p>Efficient if carried out properly</p> <p>This solution is appreciated by residents when these are visible, its at night and if made up of a strong structure</p>	<p>May be seen as a poorly attractive place . Lighting may be a nuisance to local dwellers</p> <p>Expensive</p> <p>Implementation requires space</p>
<ul style="list-style-type: none"> • CCTV with receivers available to tenants 	<p>Tenants feel safer</p>	<p>The cameras should cover the whole of parking space. The system should comply with the local/national legislation</p>

continued

Table F.1 (concluded)

LOCATION/SOLUTION PROPOSED	ARGUMENTS	COMMENTS
Lifts : <ul style="list-style-type: none"> • Mirrors, background music, level indicator • Swift lift • Anti-vandalism materials 	Helps user to be patient but could lead to graffiti	Easy implementation Investment
Technical rooms : <ul style="list-style-type: none"> • Doors 24h closed with a key with special permutation • Metallic doors for heating room 	Inaccessible, except for the personnel qualified Difficult to break in	
Cellars :: <ul style="list-style-type: none"> • Suppression • Grouping cellars together • Accessible over a specific time bracket 	No more cellar issue There are more access doors, thus less persons have the same access key to the cellars Residents only access to cellars. Easily implemented	Lack of service need of access to technical staff Solution valid for new or restored buildings. Requirement of a janitor or an agent over the time bracket