



LET'S BUILD A BETTER FUTURE

Windows, doors, facades, roller shutters **ANTI-BURGLARY SYSTEMS**

ALUPROF's aluminium systems include a wide range of solutions to improve the safety of buildings thanks to the increased resistance to burglary. Some of these products provide the highest level of safety available in the market. Burglar-resistant window & door constructions are based on standard system solutions: MB-60, MB-70, MB-86 and MB-104 Passive that include resistance-enhancing elements: anti-burglary glass, special burglar-proof elements, and hardware intended for such applications. These solutions are classified burglary-resistant (classes RC1 to RC3). Specialized solutions classified RC3i and RC4 are also available. Burglar-resistant constructions can also be fabricated using the system for lift & slide patio door MB-77HS, MB-SR50N and MBTT50 systems-based mullion/transom walls. These products are complemented by ALUPROF's burglar-resistant systems for roller shutters. These solutions help to provide an increased level of protection wherever it is required: in single-family houses, offices, shops or special-purpose facilities.



excellent protection up to class RC4

BURGLAR-RESISTANT CONSTRUCTION CHARACTERISTICS

Although the term "burglar-resistant windows/doors" is commonly used, no construction is completely resistant to a forced entry. However, depending on their structure and the type of used components, it is possible to determine whether they meet the requirements of the European standards and to determine the scale of burglar-resistance of a window or door in accordance with the relevant classification. Such constructions are classified to EN 1627 "Pedestrian doorsets, windows, curtain walling, grilles and shutters. Burglar resistance. Requirements and classification". This includes six classes of burglar-resistance: from RC1 to RC6. They determine the extent to which a construction can resist attempts to a force entry using different sets of tools and various forces.

ALUPROF SYSTEMS-BASED SOLUTIONS

In terms of burglar-resistant constructions, the following solutions are available:

1. fixed and operable windows and window sets in classes RC1 to RC3
2. special-purpose windows in classes RC3i and RC4
3. single-and double entrance doors and entrance lobbies with doors in classes RC1 to RC3
4. lift & slide patio doors in class RC2
5. mullion/transom curtain walls in classes RC1 to RC3
6. roller shutters in class RC3

Basic profile systems intended for fabrication of burglar-resistant window & door constructions enable us to choose the solutions that comply with the requirements for thermal protection of buildings. To this purpose, different systems can be used. They all vary in degree of thermal insulation performance of their profiles: from the basic system **MB-60/MB-60HI**, through the most popular **MB-70/MB-70HI** to the more performant systems: - **MB-86**, available in three versions: **MB-86 ST**, **MB-86 SI**, **MB-86 Aero** - **MB-104 Passive** available in two versions with profiles of a different insulation: **MB-104 Passive SI** and **MB-104 Passive Aero**. Burglar-resistant constructions can also be fabricated using **MB-SLIMLINE** system with distinctive, narrow aluminium profiles.

The appearance of windows and window sets is not limited to the standard constructions – window solutions **with invisible sash** are also available. They are based on the following systems: **MB-60US**, **MB-70US** or **MB-86US**. Such windows are characterized by a uniform appearance from the outside of the fixed and operable lites, and can also be fabricated in versions with enhanced thermal insulation

The opening type of burglar-resistant constructions is not limited to classic side-hung or tilt and turn solutions. Those who prefer large sliding glass products and wish to maintain an adequate level of protection can choose the system for lift & slide patio door **MB-77HS**, with a confirmed, increased resistance to burglary.

The hardware used in burglar-resistant constructions have a robust structure and special burglar-proof elements. A handle with a key is a necessary equipment for each window. Exterior door can use multi-point locks and special anti-pry mandrels. Reinforced, double door locking mechanisms play here an important role.



window MB-86, RC3



window MB-104 Passive, RC3



door MB-70, RC3



window MB-SLIMLINE, RC2



The glazing of burglar-resistant constructions usually consists of glazing units with special, often multiple-walled glass, made using tempered glass panes and special films. Depending on the classification of a window/door/curtain wall, the glass is chosen according to PN-EN 356: in classes RC1, RC2 the glass is not lower than P4A, in class RC3 the glass is not lower than P5A and in class RC4, the glass is not lower than P6B.

For fixing of glass in window & door constructions, the “closed-shape” glazing beads are exclusively used (Prestige, rounded) or Standard (rectangular). Additional protection, depending on the classification of the product (from class RC2) is the combination of glass with the construction, this using a sealing and bonding compound.

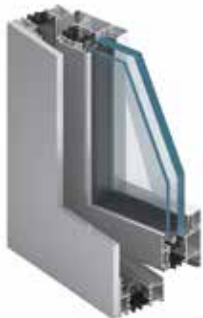
The installation of burglar-resistant constructions is yet another aspect in which they differ from standard products: each burglar-resistant window or door should be fitted in the building using screw anchors and suitably hard, spacing elements.

MB-86 RC3I WINDOWS – a prison without bars



Even in such facilities as prisons and correctional facilities, grilles in windows can be installed only partially and we can get a more “civilised” appearance of the building. This is possible thanks to the special **MB-86 RC3i** system-based windows, which aim at preventing a prison break. These windows, in addition to the mandatory set of security glass and hardware, has additional security guards from the outside. This prevents from getting to the glassmounting strips and from levering the window. Concealed hardware is complemented by security-enhancing solutions: removable handle and security lock. Such windows meet the requirements for class RC3.

MB-70RC4 WINDOWS – the highest level of security



MB-70RC4 window is a solution based on the standard aluminium profile system MB-70, which has been supplemented with components and accessories to ensure the best possible protection against burglary available in aluminium constructions. **MB-70RC4** window profiles are reinforced on the outside with aluminium flat bars, and with profiles bolted to the frame profiles and to the crosspieces. P6 B insulating glass units constitute the windows' infill, and the panes are glued to the window structure. With their class RC4 confirmed by the tests, such windows can resist for 10 minutes to an experienced burglar equipped with a substantial arsenal: hammer, axe, chisel or cordless drill. The **MB-70RC4** solution can replace the grilles made of thick steel bars, and its use allows to achieve a high level of security whilst preserving the aesthetic appearance of the building.

ALUPROF CURTAIN WALL SYSTEMS – large glazing with a high level of protection



MB-SR50N, RC3



MB-TT50, RC3

Burglar-resistant glass-aluminium curtain walls enable to fabricate constructions in classes RC1 to RC3 according to EN 1627. They can be based on two systems, similar in appearance, but varying in internal structure and technical parameters: this refers to the classic, popular system MB-SR50N or to the newer and more sophisticated system MB-TT50 that provides better thermal insulation and tightness performance.

Mullion/transom-based construction is based on the set of basic profiles, insulators, seals and glass of appropriate class, and has additional security in the form of special accessories for glass fixing and for fixing of glass to the construction using a sealing and bonding compound.

ALUPROF'S RC3 BURGLAR-RESISTANT ROLLER SHUTTERS
– to keep your home secure



In addition to the window, door and curtain wall systems, ALUPROF offers external roller shutter systems, including an innovative system of burglar-resistant roller shutters. This system is aimed at those to whom the safety of their home is one of top priorities. The effective protection is ensured by reinforced channels, which do not allow for bending back and pulling off the roller shutter profiles and by a special reinforcement in the endslat which ensures high rigidity and stability. In addition, the resistant structure of the curtain prevents any impact-induced damage to the roller shutter. The latch mechanism mounted in the bottom part of the shutter prevents the closed curtain from being raised, which significantly impedes the burglar from penetrating into the building. This burglar-resistant construction can be used both in front-mounted and flush-mounted systems. Initial Type Testing carried out in an accredited laboratory to EN 1627 have confirmed that Aluprof systems-based roller shutters are classified RC3

MAX. DIMENSIONS AND WEIGHT OF THE CONSTRUCTION

| Construction | Burglary resistance class | Max. dimensions Ls×Hs [mm] | Max. leaf/sash weight [kg] |
|----------------------------------|---------------------------|----------------------------|----------------------------|
| Tilt and turn window | RC1, RC2, RC3 | 1250×2400 / 1600×1900* | 90 |
| | | 1100×2400 / 1600×1800* | 160 |
| Side-hung window | RC1, RC2, RC3 | 1100×2400 / 1600×1800* | 160 |
| Hopper window | RC1, RC2, RC3 | 1600×2400* / 2200×1300 | 130 |
| Tilt and turn window | RC4 | 700×1750** | |
| Fixed window | RC4 | 1100×1750** | |
| Door | RC1 | 1400×2270 | 130 |
| | RC2 | 1600×3000 | |
| | RC3 | 1540×2500 | |
| Lift & slide door | RC2 | 2700×2800 | 400 |
| Burglar-resistant roller shutter | RC3 | 2800×4480 | |

* - dimensions allowable subject to compliance with the requirements listed in the table "Max. construction surface area"

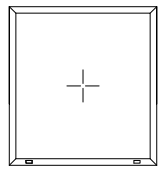
** - construction dimensions can be increased according to the guidelines described in the standard EN 1627

MAX. CONSTRUCTION SURFACE AREA

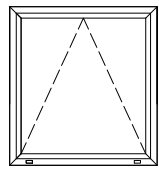
| Burglary resistance class | Construction | Max. surface area |
|---------------------------|---|-------------------------------------|
| RC1 | Side-hung window, tilt and turn window, hopper window | 2,81 m ² |
| | Fixed window | no limit |
| RC2 | Side-hung window, tilt and turn window, hopper window | 2,81 m ² |
| | Fixed window | no limit (min. dimensions: 150×250) |
| RC3 | Side-hung window, tilt and turn window, hopper window | 3,36m ² |
| | Fixed window | no limit (min. dimensions: 150×250) |
| | Roller shutter | 9,6 m ² |

AVAILABLE VARIANTS OF BURGLAR-RESISTANT CONSTRUCTIONS

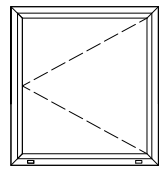
WINDOWS



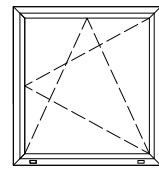
RC1, RC2, RC3, RC4



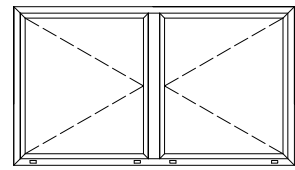
RC1, RC2, RC3



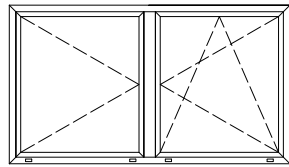
RC1, RC2, RC3



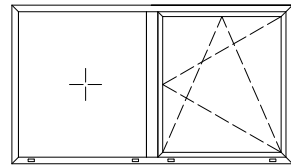
RC1, RC2, RC3, RC4



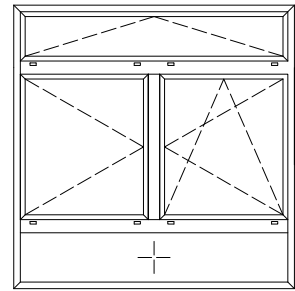
RC1, RC2



RC1, RC2

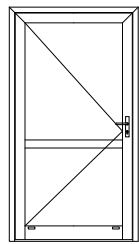


RC1, RC2, RC3, RC4

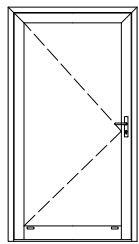


RC1, RC2

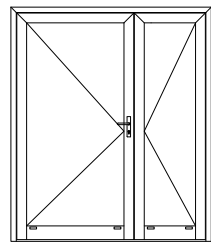
DOORS



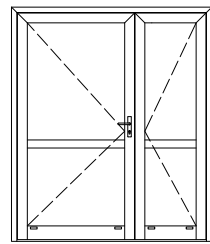
RC1, RC2, RC3



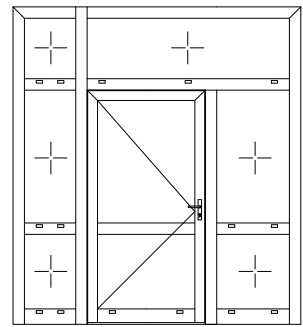
RC1, RC2, RC3



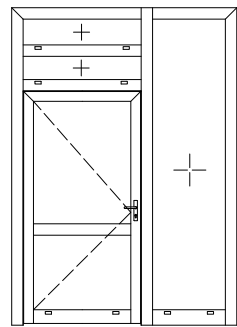
RC1, RC2



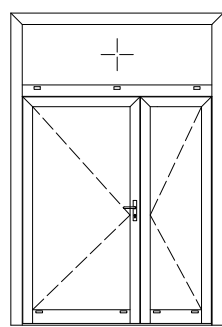
RC1, RC2



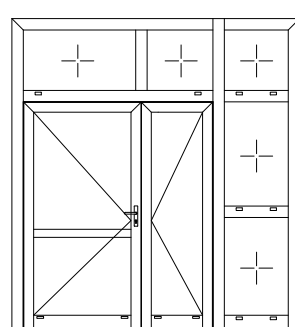
RC1, RC2, RC3



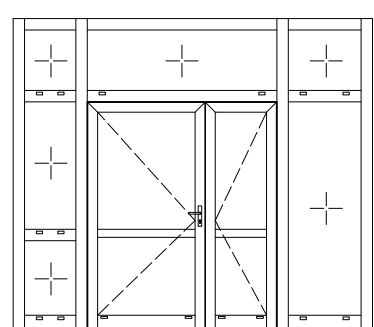
RC1, RC2, RC3



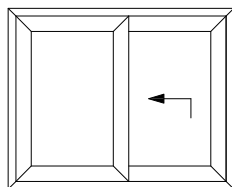
RC1, RC2



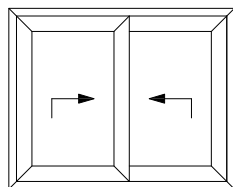
RC1, RC2



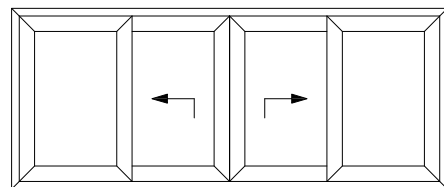
RC1, RC2



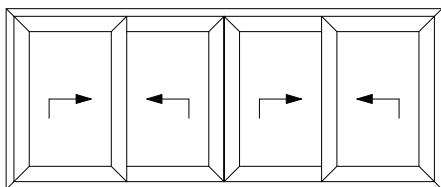
RC2



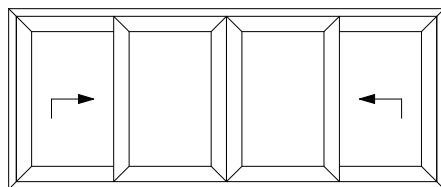
RC2



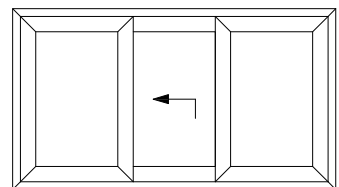
RC2



RC2



RC2



RC2

ALUPROF'S BURGLAR-RESISTANT SYSTEMS
 – Your home is safe and warm



ADVANTAGES

- maximum protection up to class RC4
- flexible design possibilities
- full range of products: windows, doors, curtain walls, roller shutters
- different versions of window appearance (standard or "invisible sash")
- durability of aluminium and rich colours
- thermal insulation that meets the requirements of energy-efficient and passive buildings
- constructions for houses, offices, shops, public buildings and special-purpose facilities



RESEARCH, REPORTS, CERTIFICATES

Aluprof SA cooperates with many research institutes and laboratories, including organizations that are specialized in determining resistance to burglary: ITB, IMP and ROMB S.A. (Poland), PIV (Germany) SKG-IKOB (Netherlands). The test reports on representative Aluprof systems-based constructions confirm the compliance with the requirements of the relevant European standards in the following fields:

- resistance to static load to EN 1628
- resistance to static load to EN 1629
- resistance to manual burglary attempts to EN 1630

Aluprof's classifications and certificates allow for the increased use of our burglar-resistant solutions on European markets.

