

Burglary protection

It is not enough simply to install a strong entrance door to make a building safe. Instead, the whole building must be analysed for vulnerabilities and be equipped with the appropriate components. Burglars always pick the most vulnerable point or try to force entry in more than one place. Therefore, a comprehensive security concept should be drafted for larger and more complex buildings. Ventilation openings can be weak points in buildings for which Lucoma AG has developed two types of louvers as reinforcement.

Components protecting against burglary prevent a perpetrator from getting quick access to the building. There are different stages of burglary protection, which are called resistance classes (or "RC" for short). The higher the resistance class the longer it takes the burglar to get inside the building or he will need specialised tools to accomplish this. This raises his risk of getting caught.

| RC (resistance period) | Perpetrator profile | Area of application |
|---|---|---|
| 1 N* (---) | The occasional burglar tries to get access by means of small simple tools and applying physical force, e.g. kicking, shoulder push, lifting or tearing out components. | Basic security of building parts without direct entrance at ground level. |
| 2 N* / 2 (3 min) | The occasional burglar will also try to get access using simple tools, e.g. screwdriver, tweezers, wedge and small handsaws for grating elements or exposed straps. | Residential buildings Commercial buildings Public buildings |
| 3 (5 min) | The burglar tries to get access by means of a crowbar, an additional screwdriver and hand-held tools such as small hammers, drift pins and mechanical drills. | Residential buildings Commercial buildings Public buildings |
| 4 (10 min) | The experienced burglar additionally uses a heavy hammer, an axe, crowbar and a portable wireless drill. | Commercial buildings Public buildings |
| 5 (15 min) | The very experienced burglar additionally uses power tools, e.g. drilling machine, hole saw and sabre saw, and an angle grinder with a disk of max. 125 mm diameter. | Commercial buildings Public buildings High security |
| 6 (20 min) | The very experienced burglar additionally uses brick axes, high-performance power tools, e.g. drilling machine, hole saw and sabre saw, and an angle grinder with a disk of max. 230 mm diameter. | Commercial buildings Public buildings Very high security |
| * For RC1N and RC2N there are no requirements for glazing at the installation site. However, it is recommended to install these components only where they are hard to reach for the perpetrator. Recommendation: at least 3 m above and 1 m to the side of firm underground. Laminated safety glass of class P4A according to EN 356 should be installed for testing, however. | | |

Table 1: according to EN 1627:2011

The specially reinforced and tested type WSG5OSK3* weather-proof louvers of Lucoma AG holds off a burglar for more than 5 minutes and fulfils all requirements of **RC3**. We have developed a louver for increased protection, meeting the requirements of resistance class **RC4**. Our WSG5OSK4* can also hold off experienced burglars with heavy tools for more than 10 minutes before they can make their way in.

The weather-proof louvers of the WSG5OAluMLSK3 and WSG5OAluMLSK4 types have been tested by an accredited testing institution in Switzerland according to the series of standards EN 1627 to 1630 and they meet all of the standards' requirements. We can manufacture the protection gratings made of aluminium as well as full V2A or V4A steel.

* SK3 and SK4 stand for protection classes 3 and 4, which are identical to resistance classes 3 or 4.

Weather-proof louvers

Burglary Protection according to RC3 or RC 4

Installation instructions

The weather-proof louvers can only deliver the protection according to their tested capabilities if they are installed professionally. It must be ensured at the site that the performance of the installation does not cause an unexpected vulnerability of the relevant building part. Therefore, the following installation instructions must be followed by all means. In case of incorrect installation, the indicated protection capability cannot be guaranteed.

Pull-off nut

The delivery of Lucoma includes so-called M8 pull-off nuts, the use of which is mandatory. The pull-off nuts prevent that the grating can be screwed off by means of common tools. Never use standard screws or nuts because the protection against burglars would not be assured by them.

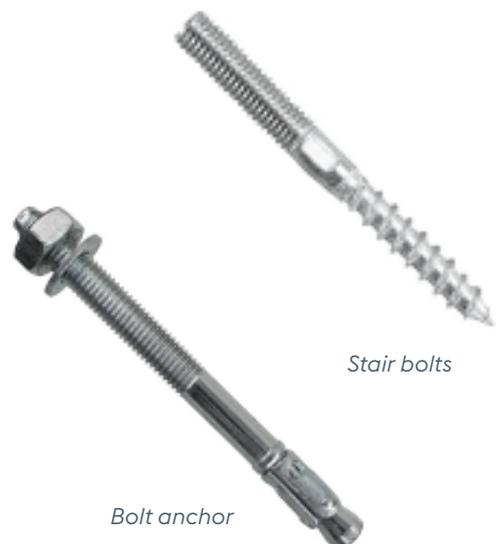
1. Check if there are enough pull-off nuts. Decisive is the number of welded-on mounting brackets.



Mounting

Since every construction situation requires specific mounting material, Lucoma does not include screws or bolts in the delivery. The selection of the suitable screw fastening is within the responsibility of the planner or the executing contractor.

2. Identify the underground onto which the weather-proove louver is to be bolted.
3. Get mounting material that is suitable for the identified underground.
Our recommendation without commitment is:
 - a. Undergrounds: concrete, brick, porous concrete or similar
→ M8 bolt anchors, M8 anchor screws, glued-in M8 threaded pin
 - b. Undergrounds: timber or similar
→ M8 stair bolts
 - c. Undergrounds: metal
→ M8 stud bolts, M8 threaded pin



Stair bolts

Bolt anchor

(The delivery of Lucoma does not include any screws.)

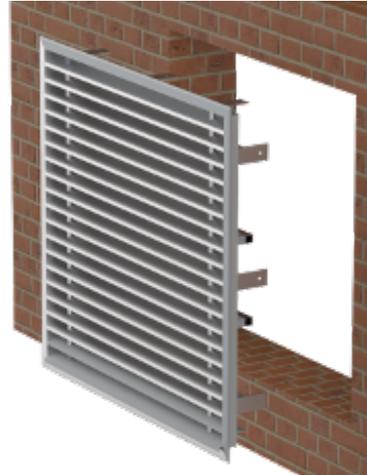
Weather-proof louvers

Burglary Protection according to RC3 or RC 4

Weather-proof louver installation

Fit the weather-proof louver into the ventilation opening. The louvers must be installed concealed with the welded-on mounting brackets, i.e. the screw connection must be made from inside of the building. To ensure the intended burglary protection, all fitted mounting brackets must be bolted.

4. Fit the protective grating into the opening and fasten it from the outside. Ensure that no unnecessary gap ($\leq 5\text{mm}$) is created between the brickwork and the flange, which might offer an area to place a tool for leverage.
5. Draw the positioning of the drill holes directly above the welded-on mounting brackets and then drill the holes according to the information provided by the manufacturer of the screws.
6. Important: all welded mounting brackets need to be bolted.
7. Properly fit the anchor screws or chosen screw through the mounting brackets.



Installation of pull-out nuts

The pull-out nuts can be installed easily with a standard screwdriver.

8. Install the grating using the pull-off nuts included in the delivery. Additional washers provide even more stability.
9. Tighten the pull-off nuts until the hexagon part of the nut comes off. This is the only way to ensure the tested burglary protection.

