

Emergency egress

Access at heights

Building façade maintenance



JOMY



ALUMINUM CONSTRUCTIONS FOR YOUR SAFETY

CUSTOM CONSTRUCTIONS BASED ON MODULAR SOLUTIONS

Our modular product lines	Emergency egress	Access at heights	Building façade maintenance
1 Retractable ladders	●	●	●
2 Exterior staircases in aluminum	●	●	●
3 Permanent ladders, with or without cage	●	●	●
4 Mobile access systems		●	●
5 Accessory safety solutions	●	●	●



ALUMINUM CONSTRUCTIONS FOR YOUR SAFETY

> Emergency egress > Access at heights



Exterior staircases are often considered the preferred solution for collective evacuation or access. All our staircases are produced from anodized aluminum profiles.

The aluminum advantage

The use of the high-quality material aluminum, despite its relatively high cost per weight, usually leads to the lowest cost solution:

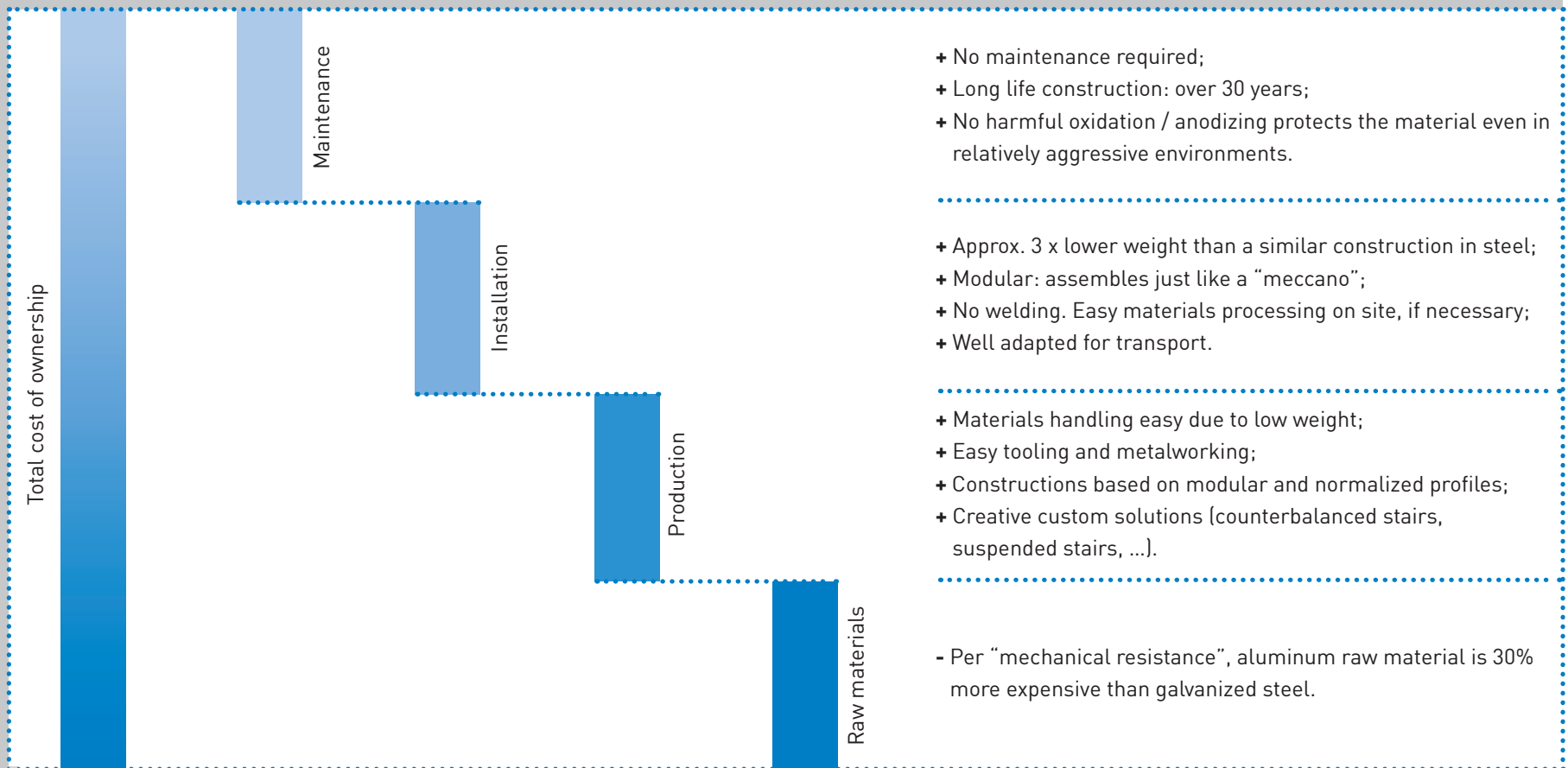
- Aluminum constructions are very light (only about 1/3 of the weight of a similar steel construction), which reduces the impact of the material cost per weight on overall costs;
- Aluminum metalworking and materials handling is very easy when compared to steel, reducing production costs;
- The JOMY stairs were conceived with transport and assembly in mind (light, ready-to-assemble meccano), reducing installation costs;
- Finally, aluminum constructions require no maintenance (e.g. no protective painting) and have a very long life span (over 30 years), further reducing the total cost of ownership.

Versatility

Moreover, aluminum allows distinctive options such as:

- Stairs with a self-supporting structure, but also suspended stairs;
- Burglar proof counterbalanced lower stairs;
- Many types of paneling of the stairs (perforated sheets, vertical or horizontal profiles, etc.);
- Painting in any desired RAL color (polyester powder coating);
- Many types of anti-slip steps, guardrails, second handrail for children, access gate, etc.
- ...

IN ALUMINUM, BUT AT A COMPETITIVE TOTAL COST OF OWNERSHIP



Despite the use of relatively expensive but high quality raw materials, the total cost of ownership of an aluminum stair is often very competitive.

MAIN CHARACTERISTICS OF OUR EXTERIOR STAIRCASES

1. General

Our staircases are constructed from standard components, which are adapted to the building in accordance with the safety requirements. The stairs are modular, bolted together just like meccano. They are supplied ready-to-assemble and designed for transport.

2. Configuration

Several layout options, depending on your building:

- In-line stairs;
- Crossed stairs, parallel to the façade;
- Crossed stairs, perpendicular to the façade;
- Rectangular stair layout;
- Other configurations on request.

Support structure:

- SELF-SUPPORTING, mounted on columns;
- SUSPENDED, mounted on brackets, which in turn are suspended from the façade.

3. Materials

The stairway is constructed from extruded aluminum profiles (anodized with natural mat finishing) and assembled using stainless steel fasteners.

4. Dimensions

Standard inclinations: 37° and 45°; other inclinations available on request.

Useful width of flights: 1'11" to 3'11" or 600 to 1200 mm; Larger widths on request.

5. Mechanical properties

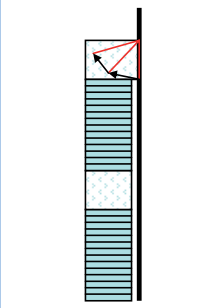
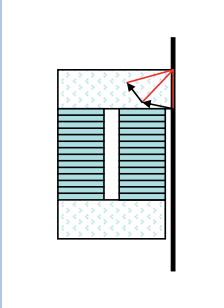
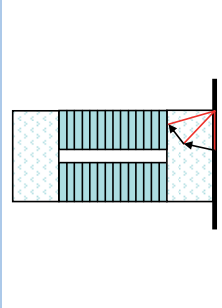
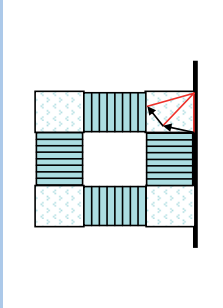
Designed to carry a useful load of 102 lb/ft² or 500 Kg/m². Different mechanical properties are available on request.

> Several other options available. Please contact us with your specific questions.

6. Options

- Several guardrail models, anti-slip steps, risers, ...;
- "Escadesign" model, with polygonal balconies;
- Burglar proof: access by unauthorized persons is prevented through a counter balanced lower flight or enclosure of the lower flight, with access door with crash bar;
- Several gates and chains to secure the access to the stairs and balconies;
- Many types of paneling to enclose the stairs, for esthetic purposes or to prevent unauthorized access;
- Custom balconies and passageways to connect to the stairs;
- Factory painting in any RAL color before delivery (polyester powder coating);
- Lower second handrail for children;
- Additional guardrails on concrete or handrails against the wall for overall security;
- Etc..

CONFIGURATIONS FOR JOMY STAIRS

Layout	In-line stairs	Crossed stairs, parallel to the façade	Crossed stairs, perpendicular to the façade	Rectangular stair layout	Others
Support structure					
SELF-SUPPORTING, mounted on columns	●	●	●	●	●
SUSPENDED from the façade	●	●		●	●

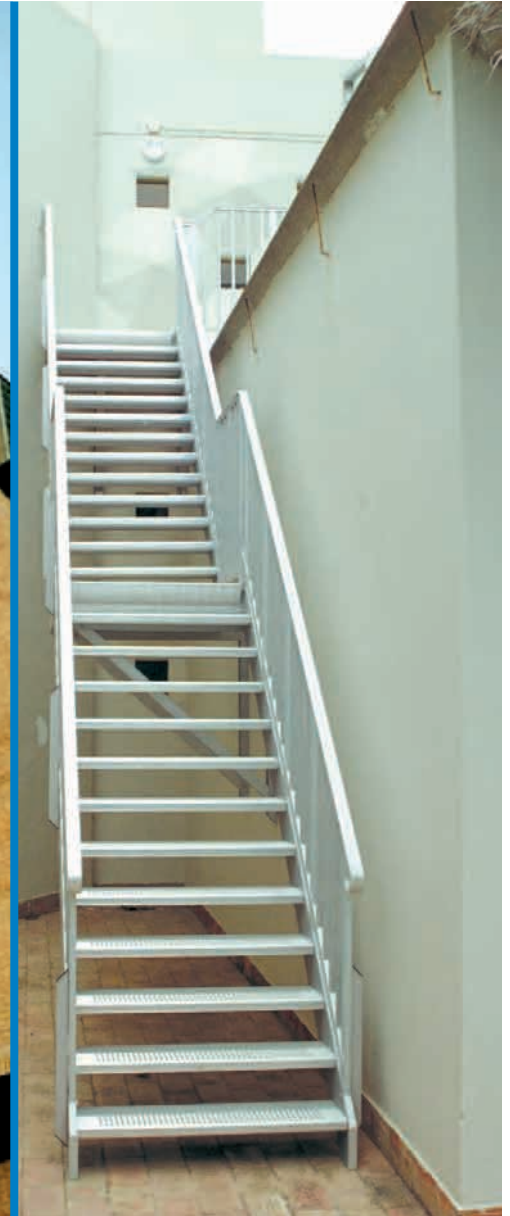
Depending on the building at hand, we propose several stair configurations, which are determined by the stair layout and its support structure.

Layout: We offer four standard layouts: in-line stairs, crossed stairs parallel to the façade and rectangular layout stairs. On demand, we also regularly develop other layouts based on straight flights.

Support structure: The stair can be classic self-supporting. However, the use of aluminum also offers the possibility to suspend the stair from the façade, if all stair elements remain relatively close to the façade.

IN-LINE STAIRS

The stairs are designed according to local regulations (e.g. the need for intermediate landings every ... steps).



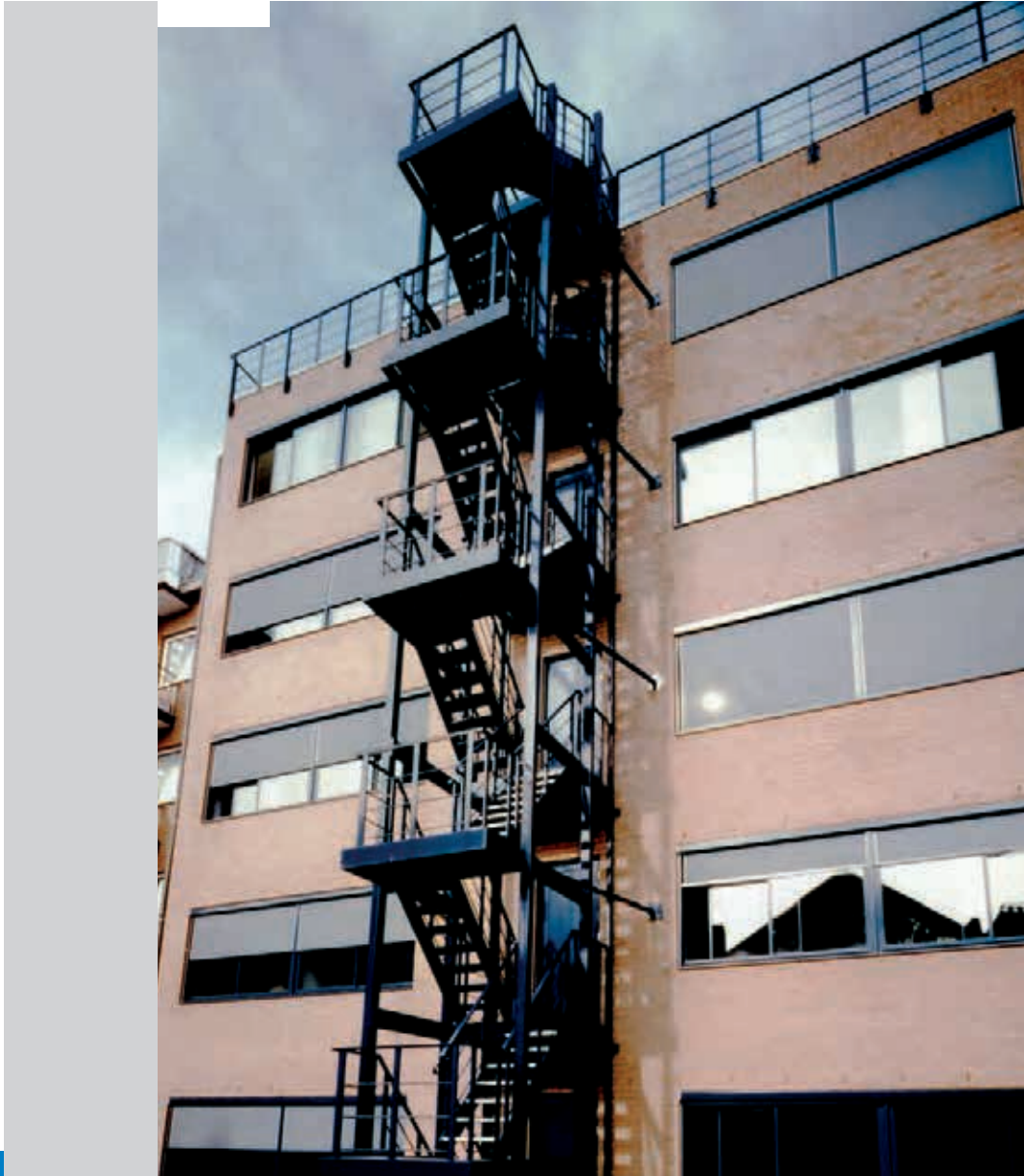
CROSSED STAIRS, PARALLEL TO THE FAÇADE

Stair suspended from the façade



Self-supporting stair

CROSSED STAIRS, PERPENDICULAR TO THE FAÇADE



RECTANGULAR STAIR LAYOUT



OTHER STAIR LAYOUT EXAMPLES

"American" layout



Rectangular layout with intermediate landing

We dimension our stairs standard for a useful load of 102 lb/ft² or 500 Kg/m². If your specific situation requires so (industrial applications, different legislation or standards, ...) we also provide stairs with a higher or lower maximum useful load. The mechanical properties of our stairs have been tested many times.

MECHANICAL PROPERTIES



EXTERIOR STAIRCASES IN ALUMINUM
MECHANICAL PROPERTIES

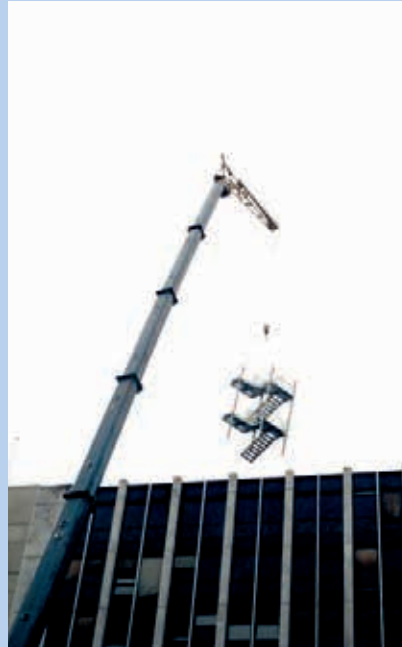


FAST AND EASY INSTALLATION



OLD STEEL STAIR

Due to its low weight and mecano style assembly, the installation of a JOMY staircase is fast and easy, certainly when compared to a similar steel stair. The left hand pictures show the dismantling of part of a steel staircase which was completely corroded. The use of a crane was un-



avoidable to dismantle the staircase. The right hand pictures show the aluminum components required for the replacement of a larger part of the same stair. We typically install our stairs without the use of a crane.



NEW ALUMINUM STAIR



Aluminum steps after 30 years



Steel steps after 30 years



STANDARD GUARDRAILS

We offer two standard types of guardrails: "BP" and "FU". The guardrails have a height of at least 3'3" or 1 m on the landings and 2'11" or 90 cm on the flights, measured at the step nose.

BP guardrail

Composed of three round profiles, set parallel to the handrail and running through the pickets. The vertical pickets are positioned every 2'5" or 74 cm maximum*.



FU guardrail

(Shown here with second lower handrail for children).

Composed of vertical square profiles with rounded edges, placed at a distance of 3'7" or 110 mm and fixed in the handrail and in a lower tube. The whole structure is carried by main vertical pickets which are positioned every 2'5" or 74 cm maximum*.



* Further details: see technical specifications, page 2.30 and next.

CUSTOM GUARDRAILS

EXTERIOR STAIRCASES IN ALUMINUM
OPTIONS



Guardrail with rectangular profiles



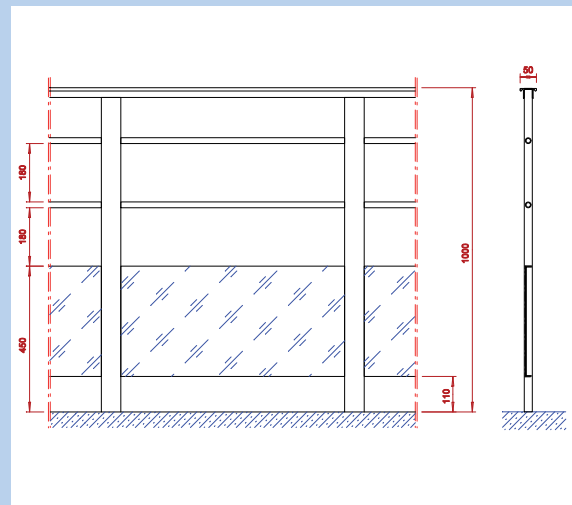
Guardrail using stainless steel cables



Guardrail with custom design



Guardrail with plexiglass

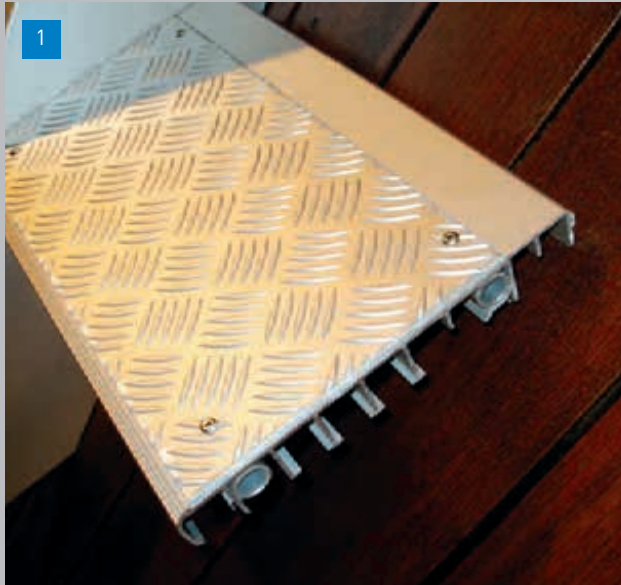


Guardrail according to specific standards



Guardrail with full aluminum plate

STEPS

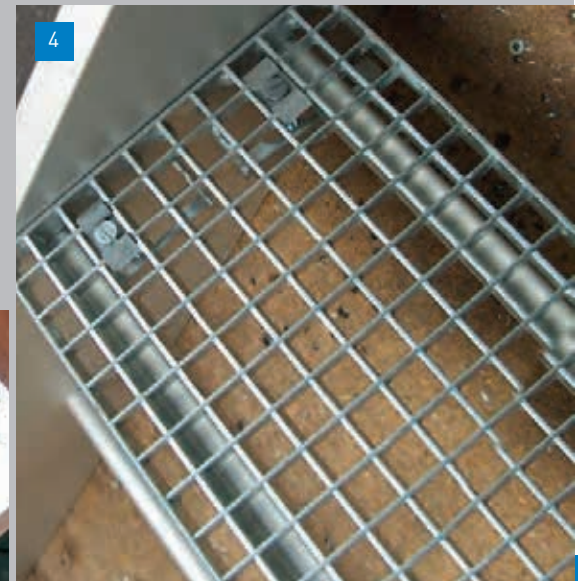
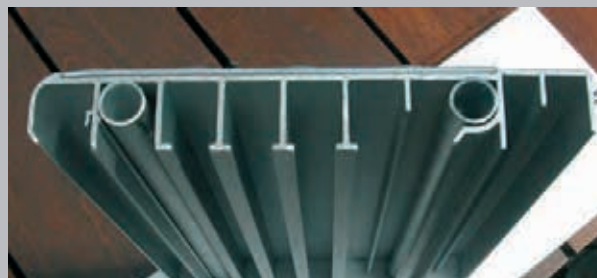


We propose three standard types of anti-slip steps:

1. Steps based on extruded profiles with anti-slip tread plates with five-bar pattern (photo 1);
2. Steps based on profiles with extruded longitudinal grooves and machined transversal grooves (photo 2);
3. Steps based on extruded profiles with anti-slip tread plates with perforations with standing edges (photo 3).

Risers available on demand.

For further details please refer to the technical description page 2.30 and next.



VARIANT: "ESCADESIGN" WITH POLYGONAL BALCONIES

EXTERIOR STAIRCASES IN ALUMINUM
OPTIONS



COUNTERBALANCED STAIRS



Two counterbalancing mechanisms are available:

System based on prolonged stringers. The lower flight has two prolonged stringer sides which project over the rotation point. The counterweight is put inside these stringers. Thanks to the counterweights, the flight is in equilibrium at its rotation point.

Cable and pulley system. The counterbalance is applied to the tip of the stair flight via a system of one or more cables and pulleys. The cable connects to counterweights that move inside a hollow profile, which is positioned vertically.



COUNTERBALANCED STAIRS WITH PROLONGED STRINGERS

EXTERIOR STAIRCASES IN ALUMINUM
OPTIONS



JOMY



COUNTERBALANCED STAIRS WITH CABLE AND PULLEY SYSTEM



ENCLOSED LOWER FLIGHT, INCLUDING ACCESS DOOR WITH CRASH BAR

EXTERIOR STAIRCASES IN ALUMINUM
OPTIONS



GATES TO SECURE THE ACCESS TO THE STAIRS

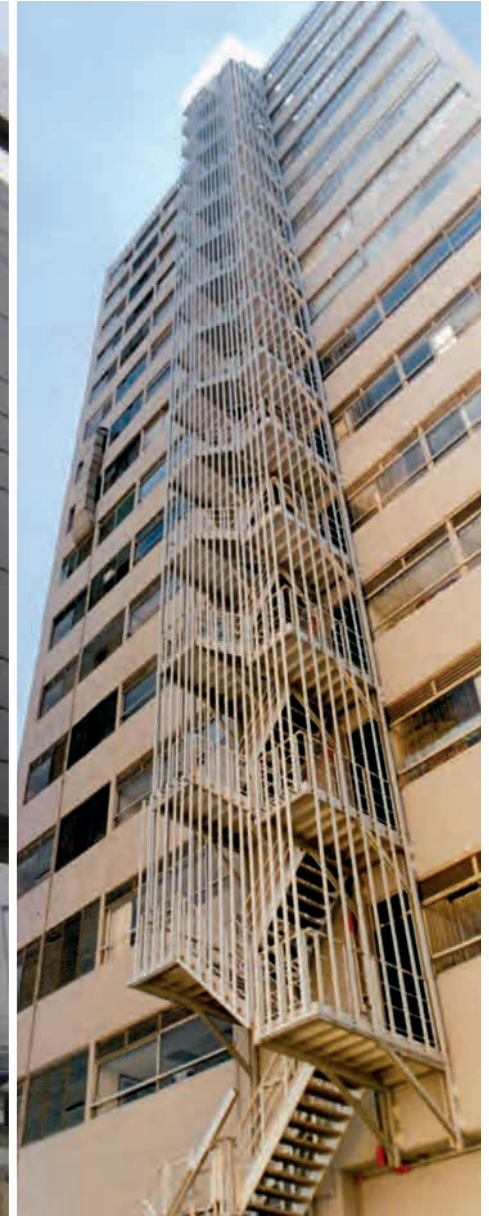


EXTERIOR STAIRCASES IN ALUMINUM
OPTIONS

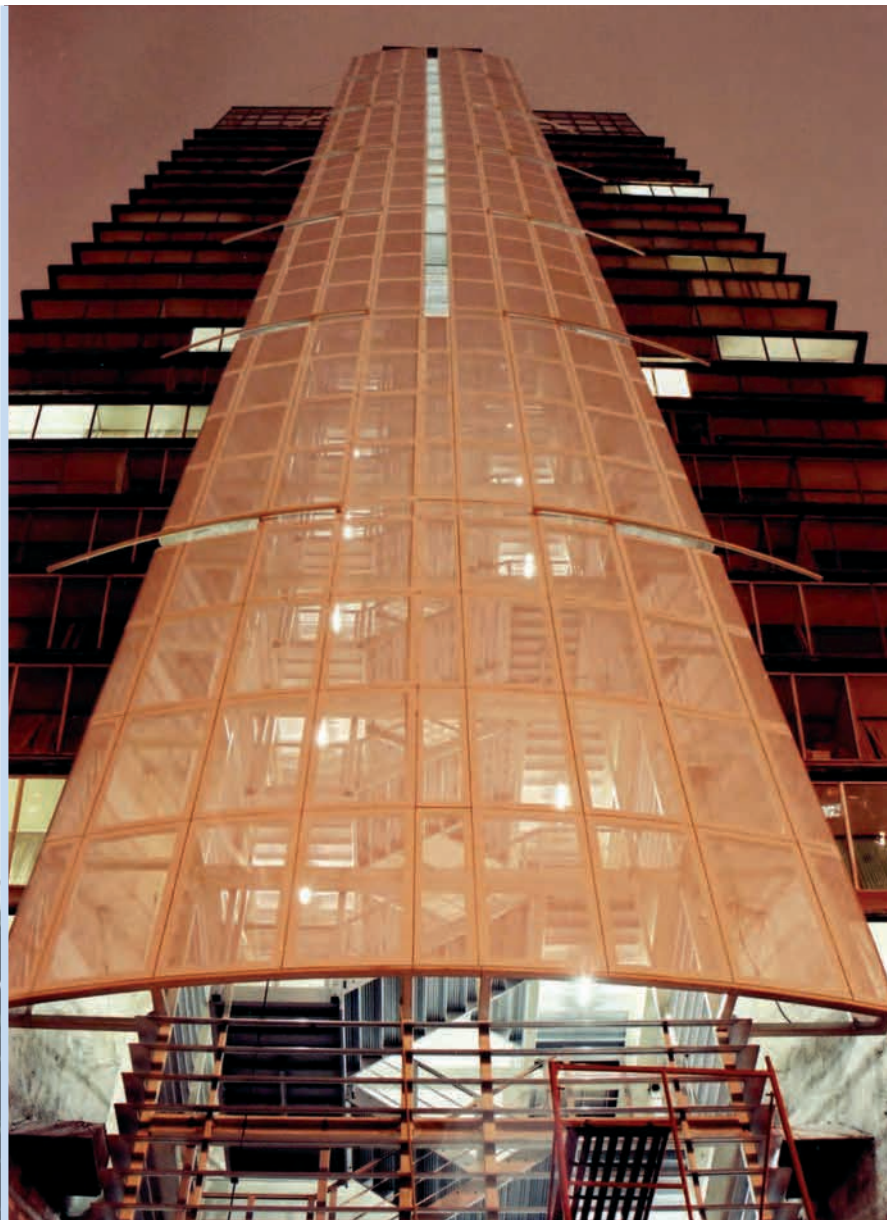


PANELING (1/2)

EXTERIOR STAIRCASES IN ALUMINUM
OPTIONS



PANELING (2/2)



EXTERIOR STAIRCASES IN ALUMINUM
OPTIONS

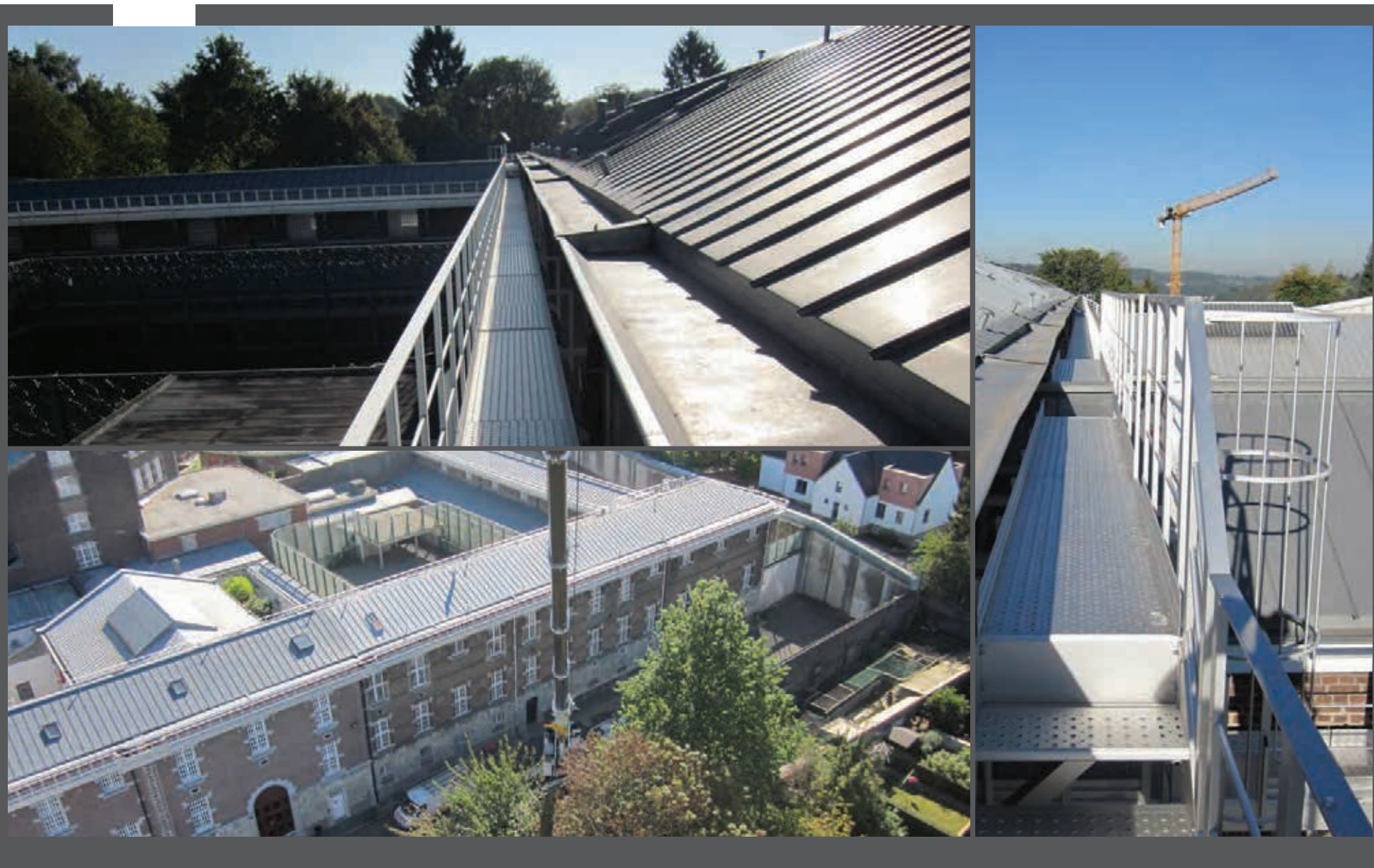


CUSTOM BALCONIES AND PASSAGEWAYS (1/2)

EXTERIOR STAIRCASES IN ALUMINUM
OPTIONS



CUSTOM BALCONIES AND PASSAGEWAYS (2/2)

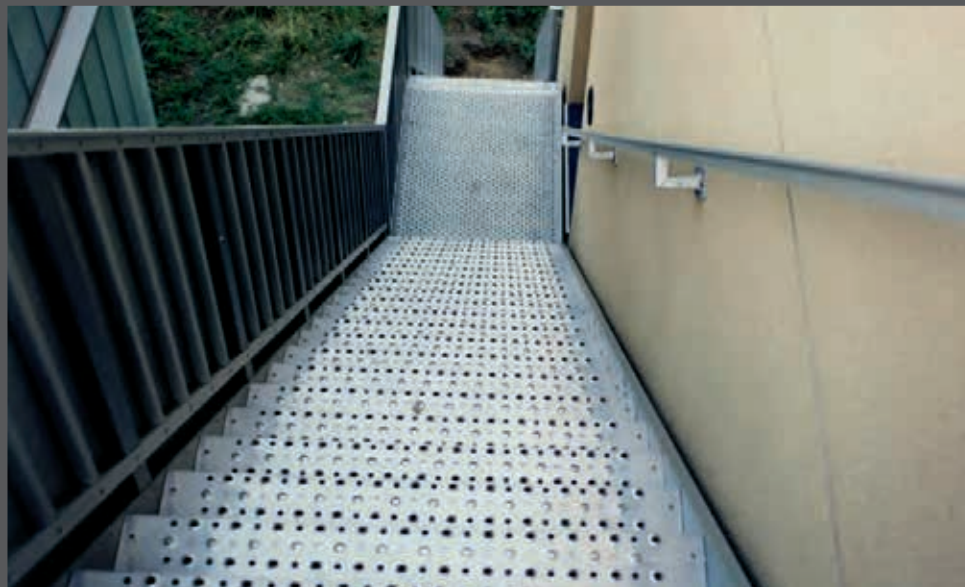


EXTERIOR STAIRCASES IN ALUMINUM
OPTIONS



GUARDRAILS ON CONCRETE, HANDRAILS AGAINST THE WALL

EXTERIOR STAIRCASES IN ALUMINUM
OPTIONS



FURTHER EXAMPLES



EXTERIOR STAIRCASES IN ALUMINUM
OPTIONS



FURTHER EXAMPLES

EXTERIOR STAIRCASES IN ALUMINUM
OPTIONS



FURTHER EXAMPLES



EXTERIOR STAIRCASES IN ALUMINUM
OPTIONS



TECHNICAL SPECIFICATIONS (1/3)

1. Configuration

The staircase is based on straight flights in the following configuration (*please select one*):

1. In line stairs: all flights are in one line, with a landing at least every 17 steps (Belgium), or according to local specifications;
2. Crossed stairs, parallel to the façade: all flights are parallel to the wall. The staircase is composed of two crossed flights per story, one access landing per exit and one intermediate landing in between two stories;
3. Crossed stairs, perpendicular to the façade: all flights are perpendicular to the wall. The staircase is composed of two crossed flights per story, one access landing per exit and one intermediate landing in between two stories. The intermediate landings are braced to the wall in order to improve stability;
4. Rectangular stair layout: flights laid out in a square so that they are alternatively parallel and perpendicular to the wall. In between two flights a landing is put at each corner of the square. Each story has one access landing, three intermediate landings and four flights.

2. Materials

Only materials not subject to corrosion can be used: extruded profiles and plates of high resis-

tance aluminum alloy, anodized 10 micron, natural mat finishing; fasteners of stainless steel, A2-70 DaN/mm².

No protective treatment, painting or maintenance is required, except when exposed to aggressive environments.

Welding is not allowed. Only 45° corners of landing frames, if applicable, can be reinforced via welding.

Besides for fasteners, steel is excluded, except in cases of extreme span, in which case an adequate isolation between steel and aluminum shall be applied, to prevent any electrolytic coupling.

The staircase can be factory painted in any RAL color by polyester powder coating (*option*).

3. Composition

The staircase is partly pre-assembled in the factory, using bolts and rivets. Final assembly of the staircase is executed on the construction site. The staircase is fixed to the wall using bolts and aluminum alloy profiles.

3.1 Stringers

The stringboards are made of hollow profiles of 8-3/16" x 1-3/16" x 5/64" or 208 x 30 x 2 mm with double chamber. Their slope is 37° (*or 45°*;

other angles on request). They make up straight flights that have a useful width of ... ft / cm (*between 1'11" or 60 cm and 3'11" or 120 cm*).

3.2 Steps

The steps are made of aluminum alloy extruded profiles. They have an anti-slip tread:

1. Steps based on extruded profiles covered with anti-slip tread plates with five-bar pattern, thickness 3/32" to 5/32" (2.5 to 4 mm);
2. Steps based on profiles with extruded longitudinal grooves and machined transversal grooves;
3. Steps based on extruded profiles covered with anti-slip tread plates with perforations (Ø 3/8" or 9 mm and Ø 9/16" or 14 mm) with standing edge, thickness 1/8" or 3 mm.

Rise height: ± 7" or 18 cm

Tread length: 9-7/8" or 25 cm

Nosing: 1-3/8" or 3.5 cm

Risers available on request (*option*)

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TECHNICAL SPECIFICATIONS (2/3)

3.3 Landings

The frames of the landings are composed of hollow profiles of 8-3/16" x 1-3/16" x 5/64" or 208 x 30 x 2 mm with double chamber. Joists of no less than 1'11" x 13/16" x 5/64" or 60 x 20 x 2 mm spaced at no more than 1' or 30 cm are fixed in this frame. These joists support a deck made of aluminum alloy tread plates that are perforated to drain rain water. The tread plates are riveted to the joists. The allowed tread plates are either five-bar pattern plates with thickness 3/32" to 5/32" (2.5 to 4 mm), or plates with perforations (Ø 3/8" or 9 mm; and Ø 9/16" or 14 mm) with standing edge and thickness 1/8" or 3 mm.

The minimal width of the landings will be at least 5" or 15 cm in excess of the useful width of the steps.

3.4 Guardrails

The guardrails of flights and landings are linked. They are made of a handrail of at least 1-15/16" or 50 mm wide, having rounded edges (radius at least 1/16" or 1.5 mm) and mounted onto hollow pickets of 2-3/8" x 1" x 1/8" or 60 x 25 x 3 mm with rounded edges. The pickets are fixed into the stringers and in the landing frames at least every 2'5" or 74 cm. In between these pickets is constructed:

1. Either a guardrail with three round tubes of 11/16" x 5/64" or 18 x 2 mm, set parallel to the handrail and running through the pickets;
2. Either a guardrail with square tubes of 1' x 1' x 1/16" or 25 x 25 x 1.5 mm with rounded edges, put parallel to the pickets and spaced at 4-3/8" or 11 cm; these tubes are fixed into the handrail at the top and in a square tube of 1-3/16" x 1-3/16" x 5/64" or 30 x 30 x 2 mm at the bottom. The pickets run through this tube;
3. Either a custom made guardrail according to agreed specifications.

The height of the guardrail is at least 3'3" or 1 m on the landings and at least 2'11" or 90 cm on the flights, measured at the step nosing.

For secure evacuation, no part of the stair shall interfere with the flowing line of the handrails. The handrails are at least 1-1/2" or 40 mm cleared from all obstacles.

On request, the manufacturer can provide a children's handrail at intermediate height.

3.5 Supporting structure

Depending on the type of stair, the supporting structure shall consist of columns or of wall bracings.

The columns and / or bracings are made of U-

shaped or L-shaped channels of appropriate sizes, with rounded edges. They will provide the required mechanical resistance (see item 4). The columns will be constructed on an adequate foundation. The wall bracings are fixed to the wall by anchor bolts of adequate sizes and numbers.

4. Mechanical properties

The stair will be able to support a uniformly distributed load of 102 lb/ft² or 500 Kg/m² on the flights (on the surface projected on the horizontal plane) and landings as well as a point load of 440 lb or 200 Kg applied anywhere on the steps or landing deck (standards NBN 1-50 and NFP 06-001).

The guardrails will withstand a horizontally applied uniform load of 67 lb/ft or 100 Kg/m without permanent deformation (standards NBN 03-103, NFP 06-001 and NFP 01-012).

The manufacturer shall share, on request, his calculations of stability, deformations and stresses.

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TECHNICAL SPECIFICATIONS (3/3)

5. Counterbalanced stair

In order to prevent improper use and / or limit the use of space at ground level, the lower flight of the staircase can be counterbalanced (*option*).

5.1 Pivoting

The pivoting system is comprised of two guiding rings of polyamide reinforced by fiberglass and a spindle in drawn stainless steel of 13/16" or 20 mm diameter.

5.2 Counterweight

Two types of counterweight positioning are possible:

1. *System based on prolonged stringers.*
The lower flight has two prolonged stringer sides which project over the rotation point. The counterweight is put inside these stringers. Thanks to the counterweights, the flight is in equilibrium at its rotation point.
2. *Cable and pulley system.* The counterbalance is applied to the tip of the stair flight via a system of one or more stainless steel cables and pulleys. The cable connects to counterweights that move inside a hollow profile, which is positioned vertically.

5.3 Blocking

The flight is blocked in its upper position by a mechanism controlled by a small gate on the access landing. Opening the gate automatically releases the flight. The counterweights ensure a soft descent of the flight.

6. Paneling

The manufacturer can provide a staircase paneling (*option*). This paneling consists of:

1. Either a curtain of vertically positioned aluminum alloy hollow profiles, mounted on two horizontal structures per story. The profiles will be (*Please select*):
 - square (1" x 1" or 25 x 25 mm), positioned every 4" or 100 mm, leading to 3" or 75 mm wide openings between the profiles;
 - rectangular (2-3/8" x 1" or 60 x 25 mm), positioned every 4-3/4" or 120 mm, leading to 2-3/8" or 60 mm wide openings between the profiles;
 - rectangular (4" x 3/4" or 100 x 18 mm), positioned every 5-1/2" or 140 mm, leading to 1-9/16" or 40 mm wide openings between the profiles;
 - circular (7/8" or 22 mm diameter), positioned every 4" or 100 mm, leading to

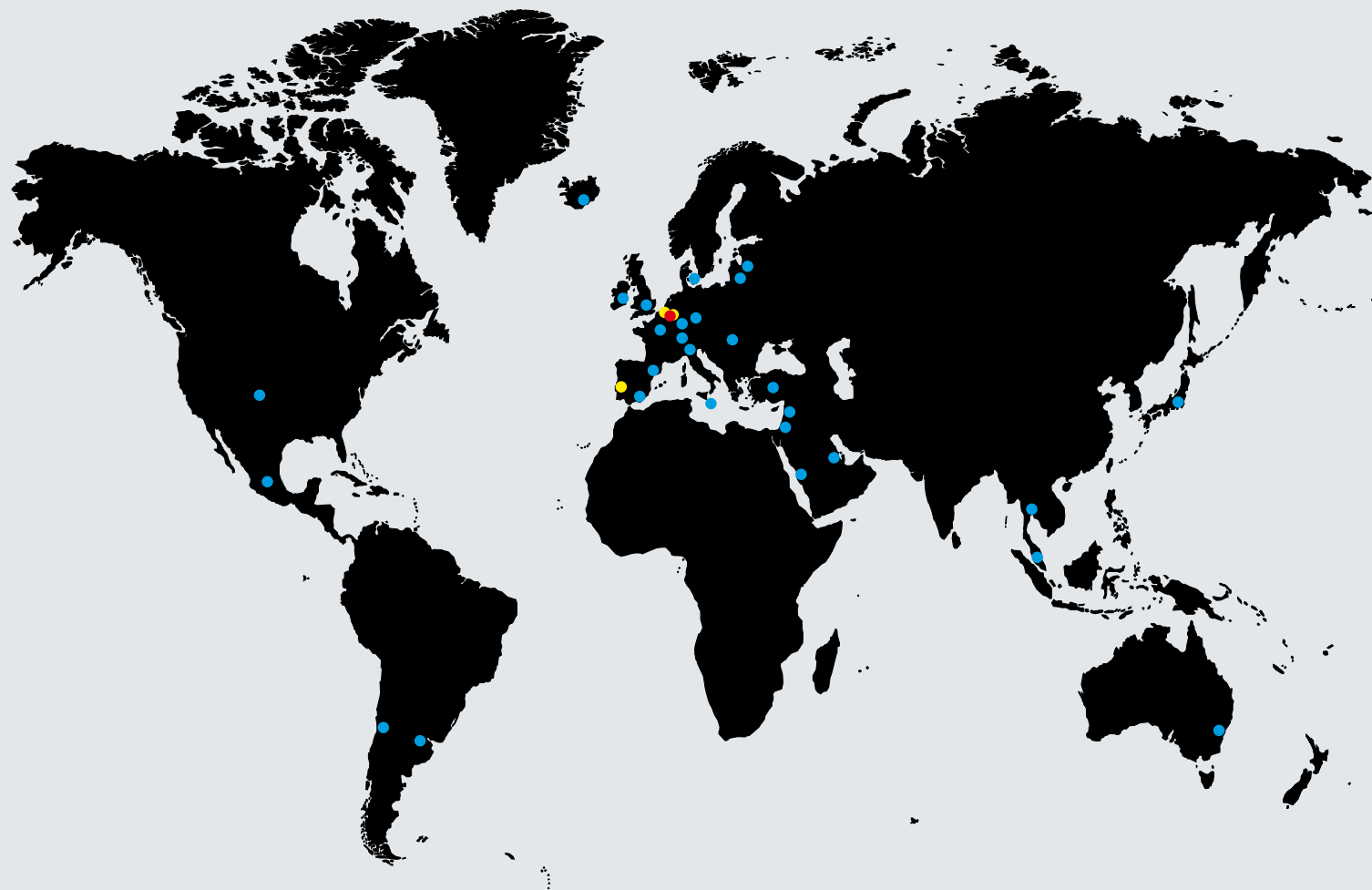
3-18" or 78 mm wide openings between the profiles;

- another structure, to be specified.
2. Either perforated aluminum alloy plates, with 5/64" or 2 mm thickness and perforations of Ø 3/16" or 5 mm (or a different type of plate).
 3. Either a different solution to be specified.

7. Guarantee

The staircase and its installation have to be inspected. The inspection report needs to be submitted to the client within one month after the installation.

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