

Technical specifications retractable ladder

1. General

Closed, the ladder resembles a metal column of 3'3" x 3'7" or 100 x 110 mm. It is installed at a distance of approx 2 ft or 60 cm from the exit and has a minor effect on the facade esthetics.

The ladder opens perpendicular to the wall (or optionally: parallel to the wall). A safety rail deploys from the mobile upright.

The closed height of the ladder is approx ... ft (please complete). After opening, the top rung will be 2'5" or 75 cm lower than the closed height. The ladder rests on the floor and runs approx 7'5" or 2.25 m higher than the highest level of access such that the top rung is at level with the user's shoulder.

2. Materials – protection – maintenance

Only materials not subject to corrosion can be used: profiles of aluminum alloy, anodized 10 micron, natural mat finishing; fasteners (bolts, axes, springs and rivets) of stainless steel A2-70 DaN/mm²; joint washers, bushes, etc. of polyamide.

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

The outside parts of the closed ladder can be painted in any RAL color by polyester powder coating (as an option)

3. Construction

The ladder is assembled from standard modules. Characteristics:

- one mobile and one fixed upright;
- tubular rungs with anti-slip upper side, width: 2 ft or 60 cm (useful width: 1'7" or 49 cm), cross section: 1-1/2" x 7/8" or 37 mm x 22.5 mm, spaced at 1 ft or 30 cm. The lowest rung is positioned at a height of 2 ft or 60 cm from the ground level;
- lateral safety rail along the full ladder height deployed from the mobile upright providing a side protection of 1 ft or 30 cm width;
- opening handles at every point of access at any desired height, with a pitch of 1 ft or 30 cm (standard: one opening handle per story). With a quarter turn of any handle, the ladder deploys over its complete height. At each intermediate level the handles are permanently fixed to the ladder, at ground level and at the roof level, if applicable, they can be removable;
- counter balance springs: the ladder is balanced by stainless steel counterbalance springs. It opens and closes with minimal effort. The ladder deploys softly.

The ladder rungs have to be tested to carry a charge of 1000 lb or 450 Kg, the ladder uprights 11000 lb or 5000 Kg.

The ladder's own weight is equal to or lower than 5 lb/ft or 7.5 Kg/m.

Optionally, the ladder can be equipped with a lifeline according to standard EN353-1. The lifeline will be based on a fixed aluminum rail and a stepless carriage, which blocks on the rail in case of a fall.

4. Installation

The ladder is installed without damaging the stability or safety of the façade. Special anchor brackets are installed at least every 5 ft or 1.5 m using M12 expansion plugs or chemical anchors. Each such support can withstand a horizontal force of 4000 N.

The ladder has to be reinforced by a special U-channel for (1) parts of the ladder that overshoot the building, (2) parts that are placed at a distance from the wall, or (3) parts that cannot be fixed to the wall every 5 ft or 1.5 m. The reinforcement profile is attached to the wall at least every 9'10" or 3 m.

In order to take into account the different thermal expansion of the wall structure and the ladder, the ladder can expand freely within its anchor brackets without deformation or damage.

The contractor will provide for a cleared surface of approximately 2'7" x 2'7" or 80 cm x 80 cm in order to allow unhampered opening of the ladder.

5. Tests

The ladder has been submitted to static and dynamic type examination tests by a certified body. The manufacturer will provide a copy of the test report on simple demand.

6. Burglar proof

The ladder can be protected from use by unauthorized persons:

- either by not placing a deployment handle at ground level nor at roof level;
- either by providing a locking hub and padlock for the ground and roof levels that prevent opening from those levels while still allowing the opening from other levels (as an option);
- either by an opening detector, to be connected to the burglary alarm (as an option).

7. Guarantee

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