1. General

- Closed, the ladder resembles a metal column of 3” x 3” or 100 x 110 mm. It is installed at a distance of approx 60cm 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.
- 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

- Only materials that are 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; and 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.

3. Construction

- The ladder is assembled from standard modules.
- 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 2ft or 60cm from the ground level;
- Lateral safety rail along the full ladder height deployed from the mobile upright providing a side protection of 1ft or 30cm width;
- Opening handles at every point of access at any desired height, with a pitch of 1ft or 30 cm (standard: one opening handle per story). With a quarter turn of any handle, ladder deploys over complete height;
- At each intermediate level, handles are permanently fixed to ladder; at ground level and at roof level, they can be removable;
- Ladder is balanced by stainless steel counterbalance springs; opens and closes with minimal effort; 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.
• Ladders can be equipped with a lifeline according to standard EN353-1. The lifeline is based on a fixed aluminum rail and a step-less 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 5ft or 1.5m using M12 expansion plugs or chemical anchors. Each support can withstand a horizontal force of 4000N.

• 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.

• The ladder can expand freely within its anchor brackets without deformation or damage to allow for thermal expansion.

• The contractor will provide for a cleared surface of approximately 80cm x 80cm to allow unhampered opening of the ladder.

5. Tests

• The ladder is submitted to static and dynamic examination tests by a certified body. The manufacturer will provide a copy of the test report on request.

6. Burglar-Proof

The ladder can be protected from use by unauthorized persons:

• By not placing a deployment handle at ground level or at roof level;

• By providing a locking hub and padlock for the ground and roof levels to prevent opening from those levels, while allowing opening from other levels;

• By an opening detector, connected to the burglary alarm.