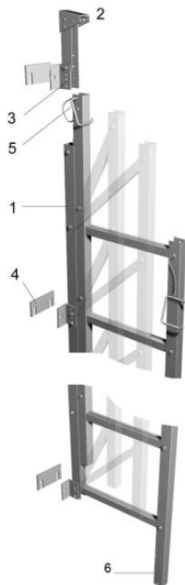


Launchable escape ladder

1. Planning

- The height of the balcony handrail is usually 1.1 m. The first or highest step of the launchable ladder is located 0.4 m down from the top of the ladder. The correct location for the top of the ladder is at approximately 1.8 m from the balcony floor. Extensions must also be placed at corresponding heights. Residents must be able to reach the launching pin.
- The overall space needed for launching is 440 mm.

2. Launchable ladder parts



1. Frame, standard dimensions 2.7m, 3.0m, 3.3m, 3.6m and 4.2m
2. Top piece
3. Wall fixture
4. Shim
5. Launching pin
6. Bottom piece

3. Installation order

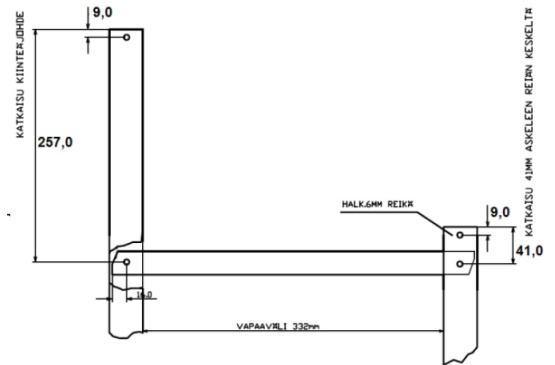
1. While on the ground, attach the top piece to the top frame with two M6 x 16 mm stainless steel screws. The fixing screw nuts are placed inside the profile. The fixing screws are located on the bottom wall fixture.
2. Start installing the ladder from the top down. The top of the ladder should be placed at approximately 1.8 m from the balcony floor. The top step should be located approximately 300 mm above the balcony handrail.
3. Attach the top ladder element to the wall. Make sure the ladder is straight by using a plumb line, for example. If the wall surface is uneven, use shims to ensure the ladder frame is positioned straight.



4. Attaching the ladder to different wall materials:

- a) Boarded wall: 7 x 50 mm HVAC screw (place M8/M10 washers under the heads, mat. kZn/stainless steel)
- b) Perforated brick: If only one frame element is installed, use a plastic ladder plug and a 7 x 50 mm HVAC screw to attach the ladder. Otherwise, use a 8 x 25 mm or 8 x 50 mm rubber nut and a M8 kZn hexagonal screw.
- c) Concrete: M8 x 75 stainless steel or M8 x 50 hot galvanised expansion anchor.
- d) Siporex and Leca: An oversized conical hole drilled diagonally down and fitted with threaded bars fitted into the flange holes with two-pack compound. The threaded bars must be at least 70 mm long. Hammer them slightly into the bottom of the hole. Material: stainless steel.

NOTE! We do not recommend attaching the launchable ladder to heat-plastered or sand-lime brick walls.



- 5. When the top frame is secure, attach the next frame to the top frame (outer profile extension joint) with one M6 x 50 mm stainless steel screw.
- 6. If the ladder is too long, make it shorter by cutting it in long lines around the top of the ladder. With a single ladder, it is easier to start cutting at the bottom. Use a fine-toothed hacksaw or band saw. Cut the ladder straight and carefully at the correct point. Place the attachment plate for the ladder launching pin chain under the head of the fixing screw of the top rung of the cut frame. The size of the drilled holes should be 6 mm.
- 7. The launchable ladder must be secured from all of its wall fixtures.
- 8. If, in order to avoid balcony slabs or any protrusions on the wall, the ladder must be brought out from the wall, follow these instructions (brackets are not included in the standard delivery).

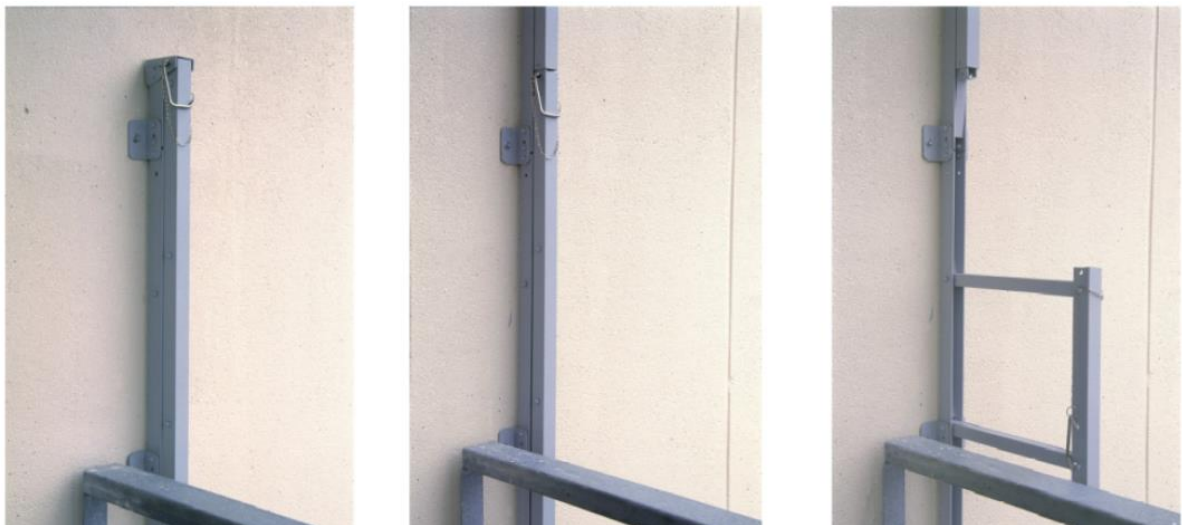


Bracket 0–10 mm:	Standard installation
Bracket 10–20 mm:	5 mm with shims or other washers
Bracket 10–90 mm:	Oval tubes under wall fixtures and, if necessary, a double nut and 8- mm threaded bar.
Bracket 90–200 mm:	Brackets + one pull bracket attached to, for example, a roof ladder fastener.
Bracket 200–450 mm:	Ordered separately from the factory.

9. When the installation is complete, perform a trial launch to ensure the ladder works properly. Carry out a trial launch from the top, middle and bottom elements. If the result is not satisfactory, try again from a different point. If the wall is not straight, the ladder might become crooked and pulling the pin might require too much strength. In this case, modify the installation.

4. Use

The ladder is launched by removing the launching pin. There is a launching pin at the top of the ladder and at each extension. When the pin is removed, the ladder is opened all the way down. The ladder cannot be launched from below.



5. Maintenance

The launchable ladder must be tested every five (5) years. The test is performed by removing the top launching pin. If the ladder opens smoothly without any issues, the ladder is closed and the launching pin is pushed back into place. If the ladder is very stiff, the ladder must be opened and closed several times in a row. If the ladder still does not open properly, the issue must be located and fixed. For example, the ladder might bend and stop working because the wall is subject to dimensional changes. Do not hang anything on or attach anything to the ladder.