SARTODOORS

European Quality in Technologies

INSTALLATION MANUAL

Hidden Door System

Concealed Aluminum Frame • Flush Wall-Mounted Door

Document Scope

This manual covers installation of the SARTODOORS Hidden Door system: door slab with concealed (hidden) aluminum frame, Anselmi AN 150 3D concealed hinges, Magnetic Lock with striker, Euro handle, aluminum frame corner connectors, reinforcing mesh, and sealant.

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1. Product Overview & System Concept

The SARTODOORS Hidden Door is a flush-mounted interior door system built around a concealed anodized-aluminum sub-frame that recesses into the wall opening before drywall or wet-finish work begins. Once the wall finish is applied around it, the door slab sits coplanar with the surrounding wall — no visible frame, no trim, no visible hinges — creating a minimalist, "floating door" appearance.

1.1 Key Engineering Features

- Rigid, durable structure machined from high-quality anodized aluminum
- Precision corner assembly system using L-shaped connectors — no welding required on site
- Plastic plugs protect the concealed hinge pockets from cement/plaster intrusion during wall finishing
- Quick-install self-locking plastering mesh for a crack-free, reliable joint between the frame edge and the wall surface
- Two opening configurations available: Outswing opening and Inswing opening (see Section 19)

1.2 The Finished Result

The composite cross-section below shows the completed assembly from the room side — door slab, Euro handle, concealed aluminum frame, reinforcing mesh, and the plaster/wall finish layer, all in their final installed state.

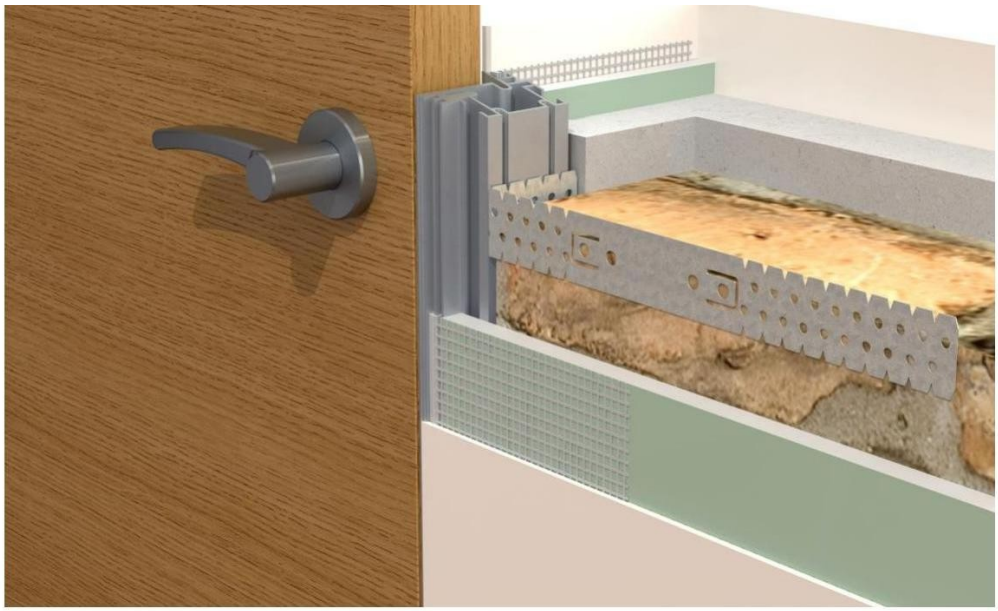

fig. 23

Fig. 1 — Finished installation, cross-section view (Outswing opening shown)

Basic Frame Colors

Standard frame finishes are silver (mill anodized) and black. Custom powder coating in any RAL color is available on request — specify at order time.

2. Hardware Specification

2.1 Concealed Hinges — Anselmi AN 150 3D

This system uses the Anselmi AN 150 3D concealed hinge (Simonswerk ANSELMI series) — a fully invisible, three-dimensionally adjustable hinge purpose-built for flush, frameless residential doors.

Spec	Value
Model	Anselmi AN 150 3D
Overall length	4 5/16” (110 mm)
Slab width	0.94" (24 mm)
Load capacity	Up to 88 lbs per pair of hinges
Hinge opening angle	up to 180° *(Actual door opening angle may be limited by the wall, handle, trim, baseboard, or surrounding conditions.)*
Reduced hinge frame part	21 mm — allows narrow concealed frame profiles
3D adjustment — side	± 0.06"
3D adjustment — height	± 0.10"
3D adjustment — compression (depth)	± 0.04"
Material	Zamak body / acetal bearing components
Available finishes	Silver, black, white, gold
Suitable for	Timber and aluminum frames; unrebated residential doors

Hinge quantity by door slab height

2 hinges — door slab height up to 84 inches
3 hinges — door slab height from 84 1/16” to 96 inches
3 hinges — door slab height from 96 1/16” to 108 inches

2.2 Door Lock — Magnetic lock

The lock mechanism used across the Hidden Door collection is the a magnetic latch system that pulls itself closed for a silent, low-effort, self-aligning lock action with no metallic "click".

- Latch type: door handle with single pre-drilled hole (passage function)
- Thumbturn type: door handle with thumbturn, two pre-drilled holes ("Cyl lock" — bathroom privacy function)
- Key type: door handle with key cylinder lock, two pre-drilled holes
- Available finishes: silver, white, black, gold

Not Pre-installed

The door lock, striker plate, hinges, and handle are supplied separately and must be installed during the door installation process.

3. Tools Required

Category	Tools
Measuring	Tape measure, level (min. 48"), framing square, calipers for reveal gaps
Drilling / Driving	Cordless drill, driver bits, 5 mm hex wrench (for door slab alignment screws), M4 bit
Frame assembly	Rubber mallet, clamps
Wall opening prep	Polyurethane foam gun, caulking gun, putty knife, trowel
Cutting	Utility knife; aluminum-rated miter saw only if frame milling is pre-ordered from factory
Installation aids	Tapered wedges/shims
Safety	Safety glasses, work gloves

4. Door Set Sizing & Dimension Calculation

4.1 Standard Sizes — Outswing

- Door leaf: 80 / 84 / 96 / 108 heights × 18 / 24 / 28 / 30 / 32 / 36 / 42" widths
- Door thickness: 1 5/8"

4.2 Standard Sizes — Inswing

- Door leaf: 80 ½ / 84 ½ / 96 ½ / 108 ½ heights × 18 / 24 / 28 / 30 / 32 / 36 / 42" widths
- Door thickness: 1 3/4"

The height difference between outswing and inswing opening door sets is intentional: it ensures that out- and inswing-opening doors installed side by side present the same visible height from the front (room) side.

4.3 Rough Opening Reference

For installations measured the rough opening (RO) is calculated by adding a fixed clearance to the door panel width (W) and height (H). The clearance differs by opening type.

Opening Type	RO Width	RO Height	Example (30" × 80")
Outswing (LH-O / RH-O)	W + 3 3/4" (95 mm)	H + 2 1/4" (57 mm)	33 3/4" × 82 1/4"
Inswing (LH-I / RH-I)	W + 4 1/4" (108 mm)	H + 2 1/2" (64 mm)	34 1/4" × 82 1/2"

For double-door (two-panel) configurations, apply the same clearance to the combined width of both panels (W1 + W2); height is unaffected by panel count.

Configuration	Outswing RO Width	Inswing RO Width
18" + 18" (36" total)	39 3/4" (1010 mm)	40 1/4" (1022 mm)
30" + 30" (60" total)	63 3/4" (1619 mm)	64 1/4" (1632 mm)
36" + 36" (72" total)	75 3/4" (1924 mm)	76 1/4" (1937 mm)
42" + 42" (84" total)	87 3/4" (2229 mm)	88 1/4" (2242 mm)

5. Pre-Installation Checks

1. Confirm the rough opening matches the ordered door set size. The frame is cut to length at the factory and is not designed to be trimmed on site.
2. Confirm wall thickness is compatible with the frame depth ordered.
3. Confirm opening direction (out/inswing) and handing (LH/RH) match the order. These are not field-reversible once hardware is installed.
4. Confirm the finished floor is in place, or its exact level is known — frame installation height depends on this.
5. Inspect the rough opening: must be plumb, level, and square.

Critical — install before wall finishing

The aluminum frame must be installed into the door opening BEFORE wall finishing or drywall installation. This is a structural requirement of the system, not a sequencing preference — the reinforcing mesh and plaster layers bond directly to the frame edge.

STEP 1 Unpack & Inventory Check

Unpack all components and verify against the supply list:

- Door slab
- Aluminum door frame: 2 side jambs + 1 header
- Anselmi AN 150 3D concealed hinges — quantity per Section 2.1
- Magnetic lock and striker plate
- 4 L-shaped corner connectors + 8 M4 screws
- Reinforcing mesh, set of 4
- Sealant / weather seal

Order separately if needed

Hinge protection plugs (for the hinge pockets during construction) and door frame milling for ceramic tile alignment are NOT included by default — request these at order time if needed (see Sections 8 and 9.1).

STEP 2 Door slab Alignment Check

Before installing the frame, inspect the door slab for flatness. If any bow is present, it can be corrected using the built-in alignment screws at the top and bottom edges of the slab, adjusted with a 3/16" (5 mm) hex wrench.

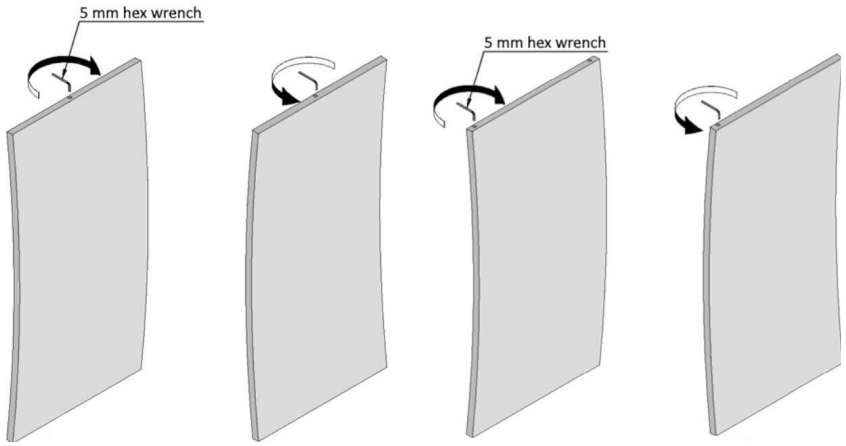

Fig. 4 — Door slab alignment using top/bottom edge screws (5 mm hex wrench)

Adjust on a flat surface

All alignment adjustments should be made while the door slab lies flat on a level surface for an accurate result.

STEP 3 Assembling the Aluminum Frame

Vertical and horizontal frame elements are joined using L-shaped connectors inserted into the frame grooves — two connectors per corner (one engaging each side), fixed with M4 screws. This produces a rigid joint that will not deform during installation or operation.

Fig. 5 — Completed corner joint using L-shaped connectors

1. Insert one L-shaped connector into the open groove of each side jamb, and one into the header, at each corner location.
2. Slide the header onto the connectors until the corner closes fully, with no visible gap at the miter.
3. Drive the M4 screws through the connectors into both jamb and header profiles. Tighten until snug — do not overtighten, as aluminum grooves can strip if forced.
4. Check both top corners for square before proceeding.

STEP 4 Two-Stage Installation Strategy (Factory Recommended)

SARTODOORS recommends installing every Hidden Door set in two distinct stages to protect the door slab and hardware from construction damage:

1. Stage 1 — Frame installation: Install the aluminum frame into the rough opening, either assembled together with the door slab, or using removable distance bars (ordered separately) to hold the frame's width during construction. Once the frame is rigidly fixed and leveled, remove the door slab (or distance bars) to protect it from dust, plaster, and impact during the surrounding construction work.
2. Stage 2 — Door slab installation: After all wall finishing and construction work is fully complete, re-install the door slab, hang it on the hinges, and complete hardware installation.

If installing without the door slab, distance bars and mounting plates are used to hold the frame rigid:

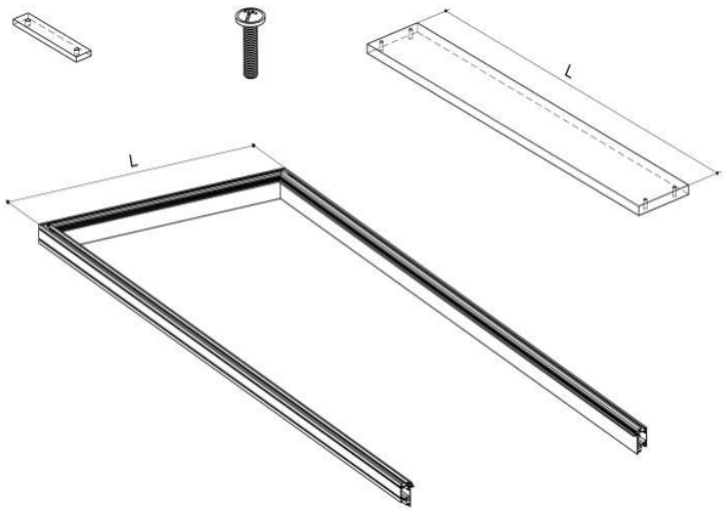

Fig. 6 — Distance bar and mounting plate kit (used when installing frame without door leaf)

The mounting plates are installed into the same face-side grooves used for the L-shaped connectors, positioned in opposing pairs — one pair near the bottom, one pair at mid-height. For frames taller than 96 inches, use three pairs, with two pairs positioned in the middle section. The distance bars are then bolted to these plates (two screws per side) to lock the frame width in place for installation.

STEP 5 Installing the Frame into the Opening

1. Insert the assembled frame (with door slab or distance bars) into the rough opening.
2. Center the frame and check plumb on both jambs and level across the header.
3. Insert tapered wedges between the frame and rough framing to prevent deflection and hold position during fastening.
4. Confirm the frame is level in both horizontal and vertical planes before proceeding to fastening.

STEP 6 Frame Fastening Methods

Choose the fastening method appropriate to the wall construction type:

6.1 Method A — Direct Fastening Through the Profile

Fasteners are driven through the aluminum profile directly into the rough framing. Because this frame design has no weather-strip channel to conceal fasteners, they must be placed precisely at the hinge seats and the lock/strike seat — the locations where the load is naturally carried and where any visible screw head will later be hidden by the installed hardware.

Fig. 7 — Fastening through the profile at hinge location (left) and lock location (right)

6.2 Method B — Mounting Plates

For wall types where direct through-fastening isn't practical (masonry, steel stud, or where added rigidity is wanted), mounting plates are fixed to the back of the frame — 3 plates per jamb — before the frame goes into the opening. The plates are then bent outward and fastened to the face of the wall framing.

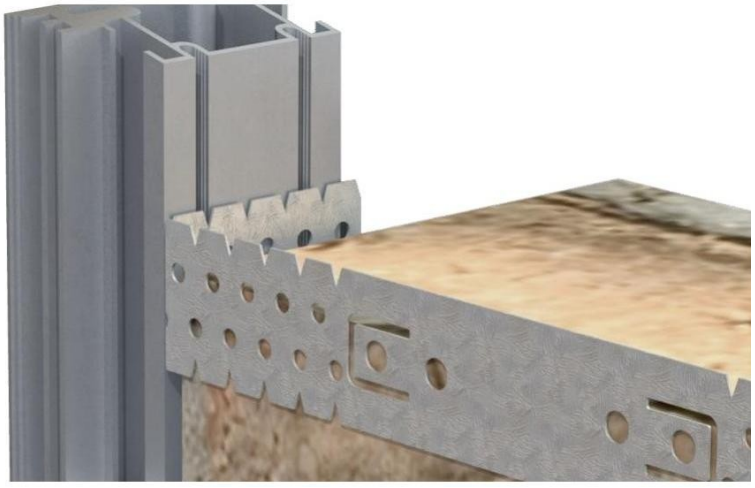

Fig. 8 — Mounting plate, bent and fastened to wall framing

STEP 7 Polyurethane Foam Sealing

1. Apply polyurethane foam to the gap between the wall framing and the aluminum frame at several points along the full perimeter.
2. While the foam cures, re-check that the frame remains level in both horizontal and vertical planes — foam expansion can push the frame out of alignment if not monitored.
3. Once satisfied with alignment, completely fill the remaining gap around the full frame perimeter with foam.
4. After the foam is fully cured, carefully trim away wedges and any foam protruding past the wall plane.

STEP 8 Hinge Protection Plugs

After removing the door slab (Stage 1 of Section 4), install plastic protection plugs into the hinge pockets in the frame. These prevent plaster, cement, or other construction debris from entering the precision hinge-receiving cavities during the wall finishing work that follows.

> **Order separately**
>
> Hinge protection plugs are NOT included in the standard supply package and must be ordered additionally if this two-stage installation approach is used.

STEP 9 Wall Finishing & Reinforcing Mesh

Unlike wooden door sets with platbands that hide imperfections, the aluminum Hidden Door frame has no trim to conceal an uneven joint — wall opening preparation must be more precise. For drywall construction, a reinforced profile with increased wall thickness, or a standard profile backed with a wooden beam, is recommended for a rigid connection and crack-free joint.

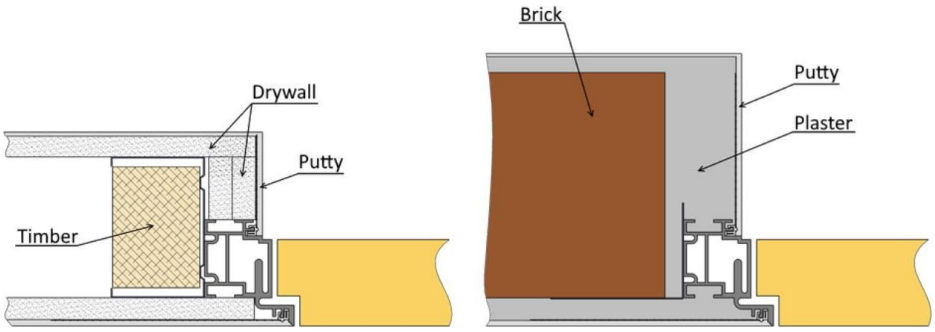

Fig. 9 — Recommended joint detail: drywall construction (left) and brick/masonry construction (right)

A purpose-built self-locking reinforcing mesh snaps directly into the frame edge, providing fast, reliable, crack-resistant bonding between the frame and the surrounding wall finish.

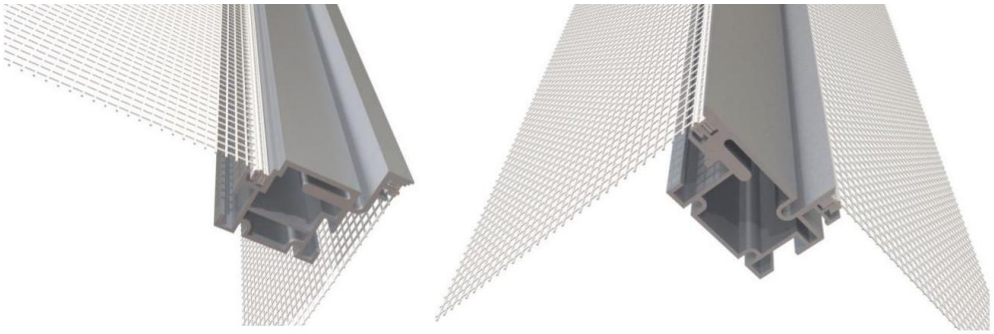

Fig. 10 — Self-locking mesh profile, engaging the frame edge groove

1. Press the mesh into the self-locking groove along the full frame perimeter.
2. At outer corners of the opening, apply the mesh with an overlap for additional reinforcement (Fig.11).

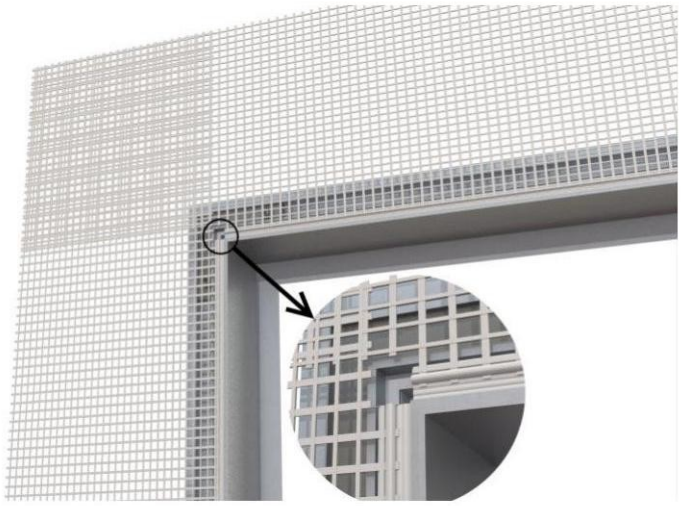

Fig. 11 — Reinforcing mesh applied with overlap at outer corners

STEP 10 Plastering & Final Wall Finish

Use polymer-modified cement plaster containing reinforcing micro-fibers for the joint seal and primary layer. Apply a minimum of two plaster layers, applying the second before the first fully cures. The aluminum frame edge itself acts as a screed strip during application, producing a reinforced layer significantly stronger than a standard plaster joint.

Once the surface is fully dry, it is ready for final finishing (paint, wallpaper, or decorative plaster — see Section 20).

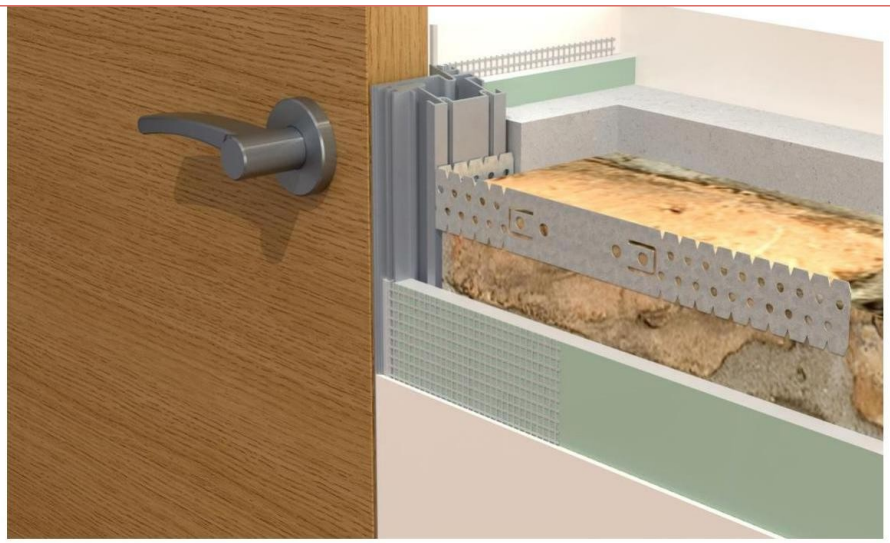

fig. 23

Fig. 12 — Completed joint, ready for finish, with handle and frame visible

Ceramic tile alignment (optional)

If the wall finish is ceramic tile, the frame can be factory-milled to create the necessary clearance for tile thickness. This must be requested at the time of the manufacturing order — it is not a field modification.

STEP 11 Hanging the Door slab & Hinge Adjustment

1. Re-install the door slab (Stage 2) once all surrounding wall finishing is complete.
2. Remove the hinge protection plugs from the frame pockets, if installed in Step 8.
3. Engage the Anselmi AN 150 3D hinges into their receiving pockets in the frame and the pre-cut recesses in the door slab edge.
4. Swing the door through its full range. Confirm no binding or rubbing against the frame or floor.
5. Fine-tune using the hinge's three adjustment points: side (± 0.06"), height (± 0.10"), and compression/depth (± 0.04") — adjust until the door is centered with an even reveal gap on all sides and seats flush when closed.

STEP 12 Installing the Lock & Euro Handle

The lock is installed on-site — it is not pre-installed in the door slab at the factory.:

1. Insert the lock body into the pre-drilled hole in the door slab and secure it with screws.
2. Install the strike plate into the frame, aligning it with the position of the lock latch.
3. Insert the handle spindle through the lock body's square hub.
4. Fit the Euro lever handle to both faces of the door, aligning the spindle through each handle's hub.
5. For thumbturn (WC) or key-cylinder configurations, install the cylinder/thumbturn through the second pre-drilled hole before fitting the handles.
6. Secure both handles together with the through-bolts, tightening evenly so neither side sits loose or binds.
7. Operate the lever from both sides to confirm smooth, full latch retraction with no stiffness.

STEP 13 Magnetic Lock Testing

1. Close the door slowly from roughly 4" (100 mm) open and confirm the magnetic latch pulls fully into the strike pocket without manual force.

2. Test from a normal-speed swing close to confirm the door seats fully without bounce or rebound.
3. If the latch doesn't seat cleanly, re-check hinge adjustment from Step 11 — magnetic latches are less forgiving of horizontal misalignment than spring latches.

Why magnetic, not spring-loaded

The Magnetic lock is drawn shut by a magnet in the strike plate rather than spring tension. This removes the metallic "click" of a conventional latch, giving the Hidden Door a silent close that matches its minimalist visual design.

19. Outswing vs Inswing Opening — Key Differences

Outside opening: the door slab opens onto the same wall side it is flush with. Inswing opening: the door slab is flush with one side of the wall but swings open onto the opposite side. Both configurations are available in Left-Hand (LH) and Right-Hand (RH) handing.

19.1 Outswing opening — LHO / RHO

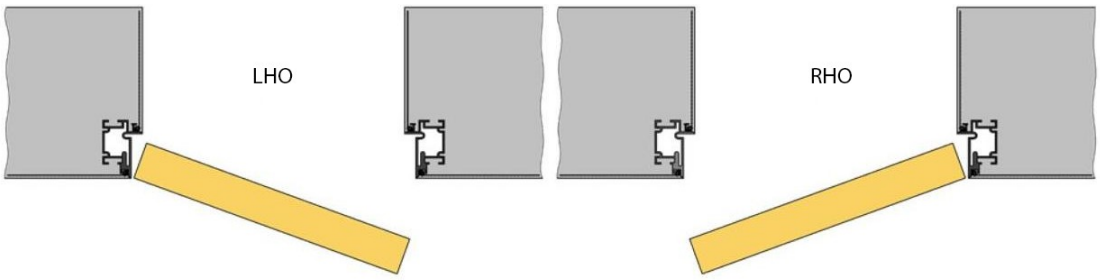

Fig. 13 — Outswing opening, Left-Hand (LHO) and Right-Hand (RHO)

19.2 Inswing Opening — LHI / RHI

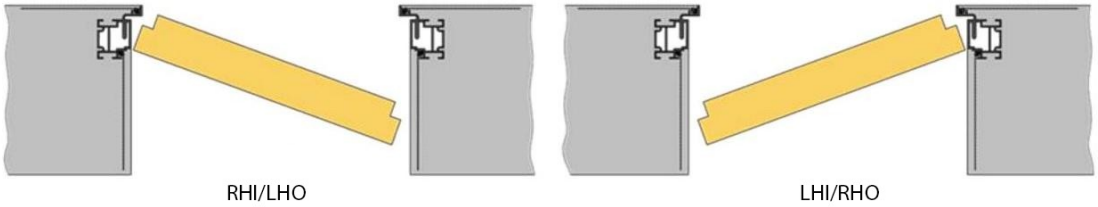

Fig. 14 — Inswing opening, Right-Hand (RHI) and Left-Hand (LHI)

Confirm handing before ordering

Pay special attention to the factory's definition of handing for reverse-opening doors, and indicate it correctly in the manufacturing order — hinge pockets and the latch mortise are factory pre-cut for a specific handing and configuration, and are not field-reversible.

20. Door slab Finishing Recommendations

Door leaves ship primed and ready for finishing. Three finish types are commonly used: painting, wallpapering, and decorative plaster.

20.1 Painting — Acrylic Silicone Paint

Water-based, with silicone resins and acrylates as a base. Properties include water resistance, fungus resistance, UV and temperature-change resistance, dirt/dust resistance, alkali resistance, and the longest service life among water-based paints (20–25 years) with stable color and brightness.

20.2 Painting — Acrylic Paint

Good film-forming and adhesive properties with strong corrosion resistance. Two common types: water-based dispersion acrylic (polymer emulsion + pigment + additives) and water-based emulsion acrylic (widely used for interior work, cost-effective). Advantages include water resistance, low odor, low-temperature resistance, long service life, fire safety, UV resistance, fast drying (30–120 minutes), and easy removal from unwanted areas.

20.3 Wallpapering & Decorative Plaster

These finishes are heavier than paint and more demanding on adhesion. Apply an alkyd-based adhesion primer (e.g. Tikkurila Otex) before wallpapering or before the decorative plaster base coat — these primers bond well to challenging substrates including glass, tile, fiberglass, PVC, aluminum, and zinc-plated steel.

21. Allowable Geometry Deviations & Quality Standards

Dimension range (in)	Frame internal	Frame external	Door slab external	Diagonal difference
19" - 80"	+1/16" / -3/64"	± 1/8"	0 / -3/64"	1/8"
80" - 108"	+5/64" / -1/16"	± 5/32"	0 / -1/16"	5/32"

- Flatness deviation: not more than 5/64" per 39 3/8" along height and width
- Edge straightness deviation: not more than 3/64" per 39 3/8" of any section length
- Corner/T-joint surface gap: not more than 3/64"; joint gaps greater than 0.008" are not allowed
- Door slab squareness deviation: not more than 5/64" per 39 3/8" of length

Operation Characteristic	Value
Air permeability (min.)	4.92 ft³
Sound insulation (min.)	25 dBA
Hinge/mechanism reliability (min.)	50,000 opening-closing cycles

22. Troubleshooting

Symptom	Likely Cause	Fix
Door rubs against frame on one side	Hinges out of side/compression adjustment, or frame not plumb	Adjust Anselmi hinge side/compression screws; re-check frame plumb
Door does not stay closed (magnet won't hold)	Strike plate misaligned with latch, or hinge adjustment drifted	Re-check hinge alignment (Step 11) before adjusting strike position
Visible crack at frame-to-wall joint	Mesh not fully seated, or plaster applied in a single thick layer	Re-seat mesh fully into groove; always apply minimum 2 plaster layers
Visible gap at frame corner	L-shaped connector not fully seated before fastening (Step 3)	Disassemble corner, reseat connector, refasten
Handle feels loose or wobbles	Through-bolts not evenly tightened	Remove handle, retighten through-bolts evenly from one side
Door binds near hinge side at the bottom	Floor gap less than 3/8" (10 mm) or frame not level	Re-check floor gap and frame level; adjust shims if needed
Plaster cracking near frame after months of use	No reinforced profile / wooden beam backing on drywall construction	Re-finish using reinforced profile or wooden beam backing per Section 9

23. Maintenance

- Check Anselmi hinge adjustment screws for drift every 6–12 months; readjust if the door reveal gap becomes uneven.
- Clean the magnetic strike plate area periodically — dust buildup can reduce magnetic engagement over time.
- Inspect the perimeter joint annually for plaster cracking; address promptly to prevent moisture ingress.
- Re-apply sealant if any separation between the frame and wall finish is observed.