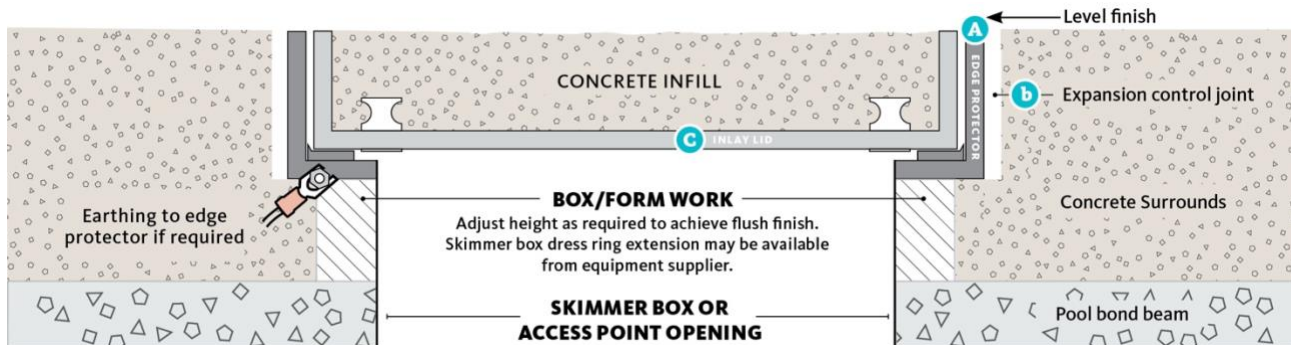


# HIDE Concrete Inlay Lid

## Installation Guide – Concrete Wet-Pour

Edge Protector (A) · Expansion Joint (b) · Inlay Lid (C)

The HIDE Concrete Inlay Lid is a flush-finish access cover for underground services in exterior concrete: pool skimmer boxes, drainage and stormwater pits, irrigation and tap boxes, water meters, electrical and communications pits, sewer inspection points, cleaning points and similar openings. This guide applies to all of them. Where an instruction depends on what is below the cover, it says so.



### Concrete Wet-Pour – Expansion & Crack Control

#### 1. Set and brace the HIDE frame

Position and level the frame at finished height and fix it so it cannot move. Fit the Inlay Lid or tight timber spreaders in the opening before pouring and leave them in until the concrete has set.

#### 2. Apply expansion foam

Wrap 10 mm closed-cell expansion foam around the full outside of the frame, flush with the top edge, and tape the ends.

#### 3. Pour concrete

Pour and finish against the foam. Never pour concrete directly against the stainless steel frame. Do not screed off the top rim.

#### 4. Finish the joint

Once cured, recess the top of the foam and finish with a flexible polyurethane exterior sealant.

#### 5. Control cracking

Provide control joints and/or reinforcement as required by the slab design. As a minimum, saw-cut a joint from each corner of the frame to the nearest joint or edge within 48 hours.

**Before leaving site:** the Inlay Lid must drop in freely by hand. If it does not, do not force it – contact HIDE.

**IMPORTANT:** The HIDE frame is a rigid penetration in a slab that moves. Appropriate isolation and crack control must be provided in the surrounding concrete, and the steps above are a condition of warranty. HIDE recommends the slab is placed by a professional, experienced concreter. Frames damaged by slab movement are not covered by warranty.

The rest of this guide explains the reasoning behind the five steps above, how to carry them out, and how to finish the installation so the lid stays removable for the life of the installation.

## Why expansion control matters

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Concrete shrinks as it cures, then expands and contracts with heat and moisture for the life of the slab. A square opening concentrates that movement at its corners, and a stainless frame set into the opening is a rigid penetration in a slab that moves. If concrete is poured hard against the Edge Protector, slab movement can push the rails inward, take the opening out of square and prevent the Inlay Lid from fitting. Not every installation is affected, but the risk is real and the fix is cheap: a compressible strip around the frame, bracing while the concrete is wet, and control joints that tell the slab where to crack. These are standard concrete practice for any rigid penetration, and an experienced concreter will recognise them.

## Before you start

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### In the kit

- Edge Protector (A) – 316L marine-grade stainless steel
- Inlay Lid (C) – 316L stainless steel tray with two safety keyways
- 4 × polymer twist-in lugs (e) and 2 × key slot formers (d) – item code CONPARTS
- 2 × Safety Keys
- HIDE Care & Maintenance sheet for the owner

### Supplied by the installer

- 10 mm closed-cell foam expansion strip (e.g. Abelflex) – approx. 2 m per frame
- Flexible polyurethane exterior joint sealant (e.g. Sikaflex PRO or equivalent) and foam backer rod
- Timber spreader blocks, if the Inlay Lid will not be used to brace the frame
- Robust, non-staining masking tape or film
- Petroleum-based or non-stick release coating
- Tape measure, spirit level, string line, diamond blade

### Safety

HIDE recommends the slab is placed by a professional, experienced concreter. The Inlay Lid is heavy: lifting is a two-handed vertical lift by an adult only – support your back and do not lift beyond your limits. Fit a secure temporary cover over the opening whenever the lid is out and the area is unattended. Never leave the Safety Keys in the lid. Bonding (earthing) rules may apply in pool areas and near electrical services – see Step 4.

## Step 1 – Check the fit and mark the frame

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1. Dry-fit the Inlay Lid (C) in the Edge Protector (A) on a flat surface. It should drop in freely with an even gap of approx. 3 mm all round.
2. Measure both diagonals of the Edge Protector, corner to corner. They should match within 1 mm.

3. Write both measurements on the frame with a marker. You will check them again after the pour.
4. If the lid is tight or the diagonals do not match before installation, stop and contact HIDE.

## Step 2 – Establish the finished height and set the frame

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Calculate the boxing or formwork required so the top rim of the installed Edge Protector (A) finishes flush with the surrounding surface. Allow for any topping, paving, grinding or sealing that will alter the final concrete height. If extra height is needed, a riser or extension for the pit, box or pipe below may be available from its supplier.

If the surface is to be ground, honed or polished, plan it now. Ground finishes remove 1–3 mm or more, and the frame must be set so the rim finishes flush after grinding, not before. Grinding near stainless also needs care: see Step 8. In short, any tool that grinds the stainless itself, or throws metal particles onto it, can leave iron embedded in the surface. Those particles rust, and each speck sets up a tiny corrosion cell that can stain and pit the 316 stainless around it. Diamond is the right abrasive for concrete, but coarse diamond tooling is metal-bond (diamond grit sintered into a metal matrix) and sheds metal as it wears, so it must never run over or against the frame. Plan to stop machine work short of the frame and finish the last strip by hand.

Set the Edge Protector over the service opening so the lid opening is centred on the pit, box or pipe below and gives clear access to it. Level the frame in both directions, square it to the nearest edge, joint or coping so it reads true in the finished surface, and check the diagonals again. Support it from the slab on chairs, pins or mortar dabs under the corners, and fix it so it cannot move during the pour. Do not rest the frame on the pit, box, pipe or pool shell below – these can settle or move independently of the slab and will pull the frame with them.

## Step 3 – Expansion foam and bracing

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1. Wrap 10 mm closed-cell foam expansion strip (b) around all four outer faces of the Edge Protector, flush with the top edge. Tape the ends so it cannot slip down when concrete is placed against it.
2. Mask the top rim and inside faces of the Edge Protector with non-staining tape.
3. Fit the Inlay Lid (C), or tight timber spreaders, in the opening. Wet concrete places pressure on the rails; bracing keeps the frame square while the slab sets.

If you are bracing with the Inlay Lid, fill the lid after the slab has set (Step 5). If you are bracing with spreaders, the lid can be filled at the same time as the slab.

## Step 4 – Bonding (earthing)

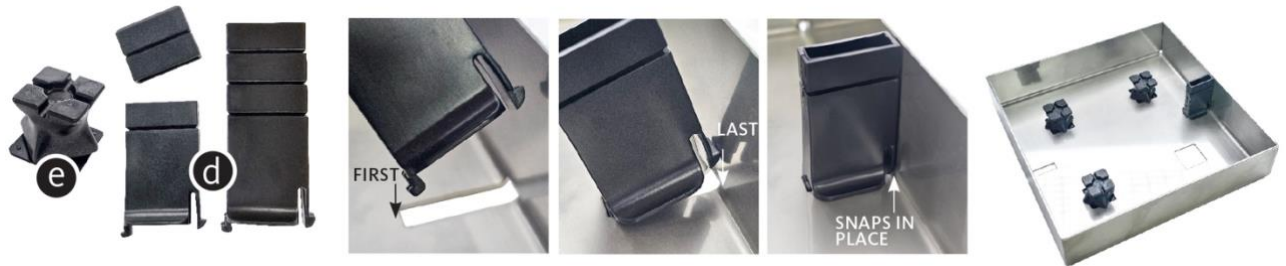
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HIDE products are 316L stainless steel and are a conductive material. Bonding is the responsibility of the installer. Attachment points are provided on the Edge Protector for bonding devices if required. Bonding is most often required in pool areas and where the cover sits over or near electrical or communications services, but regulations vary – check with your local authority to ensure the installation meets electrical safety requirements before the pour covers the attachment points.

## Step 5 – Prepare and fill the Inlay Lid

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1. Snap the two key slot formers (d) into the Inlay Lid. Hook the internal edge first, then push the spring end down to lock against the wall.
2. Twist in the four polymer lugs (e), set to suit the concrete depth: 30, 40, 50 or 60 mm.
3. Place the Inlay Lid (C) face-up on a flat surface, away from the slab pour area, and apply a petroleum-based or non-stick coating to the outside of the tray.
4. Fill with the same concrete mix being poured around the frame for a seamless finish. Allow for any grinding, honing or sealing that will alter the finished height.



## Step 6 – The pour

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1. Pour and screed the concrete up to the foam strip. Never pour concrete directly against the stainless steel frame.
2. Use the Edge Protector as a level guide only. Do not run a screed board or bull float hard across the top rim.
3. Leave the Inlay Lid or spreaders in place until the concrete has set hard (minimum 24 hours).
4. Clean any concrete residue from the exposed stainless as soon as possible with clean fresh water and a soft cloth.

## Step 7 – After the pour

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1. Remove the lid or spreaders and peel off the masking tape.
2. Check the diagonals against the marks from Step 1. They should still match within 1–2 mm.
3. Fit the Inlay Lid. It should drop in freely by hand with an even gap all round.
4. Within 48 hours, saw-cut a control joint from each corner of the Edge Protector to the nearest joint or slab edge. Slabs tend to crack at the corners of a square opening – this gives any crack a straight line to follow.

## Step 8 – Grinding, honing and polishing

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HIDE does not install or supervise on-site works. The following are general recommendations; installers must follow relevant standards, site safety procedures and their own trade best practice.

- Lift the Inlay Lid out with the Safety Keys before any machine work and store it away from the work area. Fit a secure temporary cover over the opening to prevent falls and to stop slurry entering the pit, box or pipe below.
- Tape over the exposed top and inner faces of the Edge Protector with robust, non-staining tape or film.

- Stop machine polishing a short distance from the Edge Protector and finish the last strip of concrete by hand – diamond hand pads, rubbing stones, wet-and-dry.
- Polish the Inlay Lid by hand only. Never machine-polish over stainless.
- Do not let any exposed metal part of a grinder or polisher touch the stainless, and never grind the stainless itself. Iron particles from the tool body, a metal-bond diamond segment or a steel blade core embed in the surface and rust. Each speck becomes a small corrosion cell that can stain and pit the 316 stainless around it (often called tea staining), and it can appear weeks after the job is finished.
- Diamond tooling is correct for the concrete. Coarse grinding tools (metal-bond diamond cups and segments) shed metal as they wear and must be kept well clear of the frame. For the last strip against the frame use resin-bond diamond hand pads, rubbing stones or wet-and-dry only. Never use aluminium-oxide grinding discs, flap discs or cutting wheels near the frame – these are the tools most often used on carbon steel and are the most common source of contamination.
- Rinse grinding slurry off the stainless before it dries. Slurry from metal-bond tooling carries fine metal particles that will stain if left on the surface.
- Use only non-ferrous tools on stainless: no steel wool, carbon steel scrapers, chisels or wire brushes. Use plastic or timber tools, or abrasives that have never been used on carbon steel.
- During and after polishing, wash, rinse and vacuum or blow out the recess so no slurry or metal dust is trapped.
- If rust spots or brown staining appear on the stainless after grinding, do not use acid wash or abrasives. Contact HIDE for the recommended stainless cleaning and passivation product.

#### **WARNING – ACID AND CHEMICAL WASHES**

Never allow acid or strong chemical cleaners to contact HIDE stainless components. If the surrounding concrete is to be acid or chemically washed, remove the Inlay Lid and fully mask the Edge Protector first. Apply a water-resistant lubricant to any stainless that could be exposed, and immediately rinse all HIDE components thoroughly with clean water when finished.

## **Step 9 – Finish the expansion joint**

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Once the slab has cured (ideally 28 days, minimum 7), recess the top of the foam about 10 mm below the surface, push in a foam backer rod and finish with a flexible polyurethane exterior sealant flush with the surrounding surface. The sealant keeps water and grit out of the joint while still allowing the slab to move. Do not fill the gap with mortar or rigid grout.

## **Step 10 – Hand over**

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- Show the owner or site manager how to open and close the lid: insert both Safety Keys, turn to 90° so they lock into the back of the lid, lift vertically just enough to clear the recess, and set aside. Reverse to close, then remove the keys.
- Pass the Safety Keys to the owner or site manager to store securely, away from the cover and out of reach of children. Never leave the keys in the lid – it allows anyone, including children, to open the cover and access the service below.

- Hand over the HIDE Care & Maintenance sheet. Stainless should be rinsed and wiped regularly with clean fresh water to remove dust, salts, fertilisers, pool chemicals and other contaminants.

## Check before you leave site

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- Diagonals match the marks made in Step 1 (within 1–2 mm)
- Inlay Lid drops in freely by hand with an even gap all round
- Foam expansion strip visible on all four sides of the Edge Protector
- Control joints cut from all four corners
- Stainless cleaned – no concrete residue, no tape left behind
- Safety Keys handed to the owner or site manager, not left in the lid

## If the lid does not fit

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A lid that will not drop in after the pour usually means the slab has compressed the Edge Protector. Do not force, hammer or lever the lid – it can bend the rails further and crack the corner welds.

1. Measure both diagonals and note which rail is bowed.
2. With a diamond blade, cut a relief kerf 8–10 mm wide around the outside of the Edge Protector to the full depth of the frame, on all four sides.
3. The rail will usually spring most of the way back. Ease the remainder with a timber block and a bottle jack or G-clamp across the opening, checking the diagonals until they match.
4. Test-fit the lid. If a rail has cracked at a corner weld, contact HIDE – the frame will need repair or replacement. This is not a warranty claim.
5. Fill the kerf with backer rod and polyurethane sealant, and cut control joints from each corner if they were missed.

## Need help?

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Stop and contact us before pouring or forcing anything.

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