

CLARK-DRAIN



THE DRAINAGE COMPANY

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GUIDELINES FOR INSTALLING A CLARK-DRAIN RECESS TRAY COVER

The Clark-Drain range of recess covers incorporating integral lifting keys have been specifically designed to allow convenient and easy chamber access and the range can be installed with ease.

Tools Required

General purpose saw or small angle grinder
Brick Trowel and/or pointing trowel
1metre (or longer) spirit level
Lump hammer or rubber mallet
Tape measure
Small Phillips screwdriver & Small flat headed screwdriver

Materials Required

Clark-Drain recess cover and frame (supplied together as one unit)
1 bag (25kg) building sand
1 bag (25kg) sharp sand
1 bag (25kg) cement
Clean water
Plasticizer or (1 table spoon) washing-up liquid

Installation

Remove any paving, surfacing or earth that surrounds the IC and remove any existing cover. You should now be able to see the drainage channels in the bottom of the chamber. There is often (but not always) a seating ring in place on top of the chamber which will need to be removed to reveal the top edge of the IC. Remove any other material around the IC so that there is approximately 300mm (12") of clear and roughly level working room all around. Next separate the two parts of the Clark-Drain Recess Tray Cover, the tray and the frame in which it sits. It's much easier to fit the frame on its own and then place the tray into the frame later. To prevent any dirt or mortar getting into the lifting handles of the tray, cover them with adhesive tape until the work is complete.

Place the empty frame into position over the top of the IC. The base of the frame should be sitting on top of the IC walls. Now, use a long spirit level or straightedge to check the height of the frame. Adjust and bed in to the correct level as detailed below.



If the frame is too high

The walls of the IC will need to be cut down or completely replaced with shallower sections to accommodate the frame.

Use a tape measure to determine how far the frame is above the required level when sat on the IC. Allow an additional 10mm (it's easier to raise the frame if it's slightly too low, rather than have to cut the chamber a second time) and then mark the inside of the IC using a marker pen.

For plastic chambers, cutting down is best done using a small angle grinder, although a small general-purpose saw may also be used. Take care when using an angle grinder as it will spit out hot plastic swarf; wear goggles, gloves and long sleeves, and ensure you cut all the way through the chamber wall.

Once the IC has been cut all the way around, excavate on the outside of the chamber to remove any earth or other material that is higher than the cut. This will prevent any dirt or debris falling into the chamber once the cut section is lifted out.

As before make sure there is plenty of working room and then offer the frame into place once more. Check the level again. Ideally, the frame will now be 50mm lower than the height required, as this will allow it to be properly bedded into place. See the "Seating the Frame" section below.

If the frame is too low

The frame needs to be slightly lower than the required finished level so that it can be properly bedded into place, but if it is more than around 30mm lower than the finished level, the level difference will need to be built-up or 'regulated' using masonry bricks (for 50-150mm build-up) or additional chamber sections (for when the difference is greater than 150mm) which can be bought from most Builders' Merchants.

Seating the frame

Use a 4:1 mortar mix (4 parts sand: 1 part cement). Thoroughly mix together the sand and cement before adding any water. A plasticizer or a tablespoon of washing-up liquid added to the water helps produce a more workable mortar. Add the water a little at a time, mixing it in to create a mortar which is pliable, but stiff and not runny.

Use a trowel to spread a bed of mortar around the outside of the IC. The mortar should extend 50-100mm (2"-4") beyond what would be the outer edge of the frame when it is in position. Take care not to allow any mortar to fall into the chamber. Place the frame onto the mortar bed and position it so that the opening is central over the IC.

Rotate the frame to the required alignment that best suits the paving (there is no need to align the frame with the drain channels inside the IC). Use a rubber mallet (or lump hammer with a piece of timber as a cushion) to gently tap down the frame, bedding it onto the mortar. Check the level of the frame using a straight edge or spirit level. The frame should be 1-2mm lower than the planned level of the paving.

Once the frame level has been checked for accuracy in both directions (up-down and left-right), it can be haunched in position using more mortar. Do not bring the haunching too far up the frame as room needs to be left to accommodate the paving.

Any mortar that has been squeezed out from beneath the frame into the IC should be cleaned away carefully. Mortar that has fallen into the chamber MUST be removed before fitting the tray. Larger deposits can be cleared using a trowel, but small amounts can be washed away with water.

Fitting the tray

It is not recommended that the tray be fitted immediately after seating the frame as this may disturb the mortar and frame position.

The tray should slide easily into the frame without pinching at the edges and it should then remain in place to prevent debris entering the chamber and reduce the risk of personnel falling into an open chamber, even if the area is not ready to be paved or surfaced. Running a length of adhesive tape along the gap between frame and tray will help reduce the risk of sand and other debris getting in. The tray must be placed into the frame prior to blocks or concrete/tarmac being laid to the surrounding area.

Filling the tray

Ideally the frame should be given 24 hours for the mortar to harden but, in many installations the work has to proceed immediately. In such cases it is important to take care not to allow the frame to settle unduly by subjecting it to any load.

Although the blocks (or flags) that need to be fitted into the cover can be laid onto a bed of sand it is best to use a 6:1 damp mix of grit sand and cement for block paving and a moist mix for flags.

Place and align full blocks first. This is particularly important with block paving where the aim is to maintain the laying pattern and minimise the "noticeability" of the cover within the finished surface.

Once the full units are fitted, cut pieces can be prepared and used to complete the cover. Most contractors will use a power saw fitted with a diamond blade to cut blocks and flags, but advice from the HSE recommends that only wet cutting (water suppressed) should be used to minimise dust hazard.

The paving can be tapped down to level using a rubber mallet. For block paving, a vibrating plate compactor is used to consolidate the paving. We would recommend that this compaction avoids the area of the newly fitted cover completely or the compaction is delayed for approx. 24 hours to allow all mortar to harden.

Once the cover is complete and the area has been compacted as required, it is good practise to check the installation. Remove the adhesive tape that has been protecting the integral keys and the joint between cover and frame. Use a small flat-bladed screwdriver to remove the key cover and raise the lifting keys. Please bear in mind that the cover will now be quite heavy and assistance should be sought before lifting the cover straight up and clear of the frame. Place it safely close by.

Check that the drainage channel of the IC is clear of any obstructions or debris then use a soft brush to clear any loose sand that has found its way into the frame area. For ease of removal in future the internal surface of the frame should be smeared with petroleum jelly.

Finally, replace the cover making sure that it sits securely within the frame, push down the lifting keys and replace the key covers (if applicable). It is also best practise to lift covers on a yearly basis to prevent them from becoming jammed.

