

Lock 'n' Roller Series II Fitting Instructions – Injection Resin

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Important Requirements

Any security installation is only as strong as its weakest link:

The integrity of the Lock 'n' Roller is dependent upon the quality of the surface to which it is fitted.

The Lock 'n' Roller is normally supplied as a paired set, with one locking plate and lock for the left side of the doorway, and another (mirror-image) locking plate and lock for the right side of the doorway. If you have purchased a single side only, please interpret these instructions accordingly.

If you are unsure, please contact your supplier for advice.

****These instructions are preliminary as this is a new product. Updated photographs are pending****

What Tools Will I Need?

The fitting kit includes the main fixings that are required. The only tools you will require are:

- An SDS+ hammer drill that also has rotary-only capability
- A 40mm Diameter Core Drill and any Arbor Required
- A pilot drill to suit above, e.g. 6mm diameter
- An 18mm Diameter SDS+ Drill Bit, with at least 200mm drilling depth (Alternatively: A 20mm diameter drill to give more adjustment on alignment)
- Another pilot drill to help locate the 18mm drill, if required
- A small chisel, for chipping-out concrete
- An electric drill for drilling the bottom of the roller door
- HSS (metal cutting) drill bits 11mm and 4mm (as a pilot), to suit drill
- An M12 Flat Washer (as a marking-out aid)
- A 19mm AF spanner or adjustable wrench
- A medium sized hammer
- A centre punch for locating the drill bit
- Eye protection – goggles or a visor should be worn
- A pencil or felt pen or similar for marking holes to drill

How Long Should I Allow?

60-90 minutes as a guideline. Be careful and don't rush. The Lock 'n' Roller will be ready for use once the resin has cured, usually within 1-2 hours.

What Parts Should be in the Box?

The Lock 'n' Roller uses top quality chemical resin for maximum security in variable condition concrete floors. **Each paired set** contains:

- Lock 'n' Roller plate - Left side of the door opening
- Lock 'n' Roller plate - Right side of the door opening
- Lock 'n' Roller Socket Assembly (qty. 2)
- RoundLock Lock Body (qty. 2, keyed-alike)
- Fischer FIS VS 100 P Vinylester resin cartridge with a mixer nozzle and screw plunger, or FIS VS 150 C bare cartridge with a mixer nozzle (or equivalent)
- Length of flexible PVC hose
- Hole-cleaning test tube brush
- M10 coach bolts (qty. 6)
- M10 security shear nuts (qty. 6)
- These instructions

Health and Safety information for the resin cartridge is on or in its box.

How to Fit a Lock 'n' Roller

The Lock 'n' Roller is designed to be fitted by competent maintenance or fitting staff or a builder or DIY enthusiast.

You should read through these instructions in their entirety before starting the fitting process. If you are not confident of your ability, you should ask an experienced person or professional builder to help.

The Lock 'n' Roller is normally fitted externally, i.e. outside the roller shutter door. This makes it a visible deterrent and helps to protect the bolts from attack.

One locking plate is normally fitted towards the left bottom corner of the door opening, and the other locking plate towards the right bottom corner. This dual-locking approach gives maximum protection to the door.

The following instructions describe fitting the *left* locking plate (as viewed from outside the door). A similar sequence should be followed to fit the opposite plate, in the right hand corner of the doorway.

If you are installing in unusually high or low temperatures (below 0 or above 30 Celsius), please contact your supplier before proceeding.

1. Check the contents of the Fitting Kit: Ensure the fitting kit is complete (the items are listed above). Contact your supplier if there are any parts missing or damaged.

2. Choose the precise location: The left locking plate should be fitted toward the bottom left corner of the roller shutter doorway (as viewed from the outside). You will need to drill into the concrete to suit the socket assembly, and three holes through the bottom of the door to hold the locking plate. Be careful to avoid any pipes, cables etc in the floor (the use of a metal detector or other pipe/cable detector is recommended if you are unsure). You may need to remove any bolts that clamp the bottom of the door with back-to-back steel angles/bars, in order to get a flat surface for the locking plate mounting. The Lock 'n' Roller is designed for permanent installation so take time to ensure the chosen position will not cause obstruction or other problems later.



3. Note: The recommended gap between the left edge of the plate and the door frame is 20mm.

Beware: Roller shutter doors tend to float sideways in their guides. This means that they will not always come down in exactly the same position. The Lock 'n' Roller is designed

with a reasonable allowance for this movement without making the hole so large that the security is impaired. Check that the door is reasonably central in its range of movement when positioning the locking plate.

Remember that any locking device is only as good as the substrate it is fitted to. The photos here show the Lock 'n' Roller being fitted very close to the edge of a concrete slab. This is not ideal but was unavoidable in this particular situation.

4. It is easiest if you drill the holes in the concrete first. Use the locking plate to mark the position of the hole for the floor. You may find it helps to determine the centre of the hole if you use an M12 washer, as shown in the photo here. Then, move the plate and washer out of the way and using eye protection, good ventilation and a hammer drill, **drill a pilot hole** to suit the core drill, ideally to 60mm depth. Take care not to breathe the dust whilst drilling concrete.



5. Then use the 40mm diameter **Core Drill** to drill to 40mm depth. This will leave a round plug of concrete still in position that needs to be knocked out. That is easier if you now use the **18mm SDS+ drill** bit to drill to 200mm depth, using the pilot hole drilled initially as a guide. Take care to keep vertical as any alignment error will cause the socket to be out-of-line, later.

This should give you an 18mm hole at the centre of a 40mm diameter annular/cylindrical groove. The core within that groove now needs to be knocked out. This may be easier, again, if you go back to the smaller **SDS+ pilot drill** and make multiple holes into that core, to weaken it as much as possible. Then use a chisel to break out the core to leave a 40mm deep hole in the concrete, with the 18mm hole going deeper down.

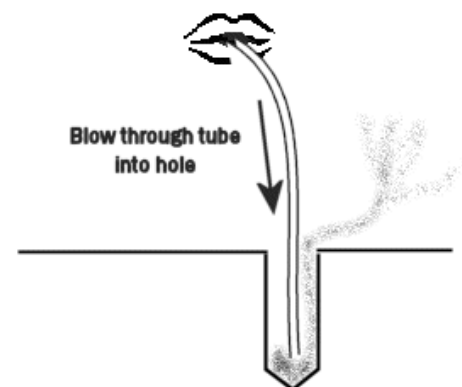
Clear the concrete chips from the hole thoroughly.

Check that the hole is big enough and aligned vertically: This can be done by locking the RoundLock body into a socket and then carefully lowering the combination into the drilled hole. Hold the RoundLock body to lift it out, rather than pulling on the key.

If the hole isn't quite big enough to clear the socket, or if the 18mm hole is off-vertical, this needs to be corrected by adjusting with the drills. The fit is not critical as the resin will fill gaps very well. Drilling the deeper hole with a 20mm diameter drill may be an easy solution to give more precise vertical alignment. Beware that a larger hole will need more resin to fill a larger gap.

6. **Clean dust from inside the hole:** It is very important that the holes are as clean as possible if the resin is to achieve a good bond. The drill will often leave a surprising amount of dust at the bottom of the hole so it is a good idea to spin the drill up and down to *screw* dust out of each hole.

Then, still wearing eye protection and taking care to avoid breathing the dust, use the supplied test tube brush to clean dust from the hole. A vacuum cleaner or compressed air will help a lot, in conjunction with the plastic tube provided. Otherwise, also use the plastic tube provided to blow any remaining dust out of the hole. Place one end of the tube in your mouth and



and, whilst blowing, move the other end of the tube up and down in each hole. Keep using the brush and blowing through the tube until the holes are clean and no more dust blows out. Try not to dribble into the tube 😊

- 7. Check that the hole is clean and deep enough:** Use the 18mm drill bit to check the hole is clear and the right depth, comparing with the overall length of the socket assembly. It is surprising how easily compacted dust can remain at the bottom of the holes – if the holes are not clear or simply not deep enough, repeat the relevant steps above to achieve the correct depth and a hole clear of dust and concrete chips. Ideally, use a screwdriver or other long rod to assess that the bottom of each hole. The injection resin is good in situations of compacted sand or mud or limited air gaps/voids.

Also check that the hole is in the correct position by placing the locking plate over it, appropriately centred, and checking that the plate is snug against the bottom of the door. Small errors can be corrected by re-drilling; greater errors need you to start again in a different position or seek advice from your supplier.

- 8. Prepare the Resin Cartridge:** Remove the cap and screw the nozzle with its internal spiral mixer onto the resin cartridge. Ensure the mixer spiral is present. For the 100ml cartridge, screw the twist plunger into the base of the cartridge until you start to feel resistance; for the 150ml cartridge, fit it into a standard sealant (*skeleton*) gun. Eject some resin onto an unimportant surface until it emerges as a consistent grey colour. The Fischer resin is normally mixing well within 30-100mm of ejected resin. Resin that is not evenly grey in colour will not cure and must be disposed of.
- 9. Inject Resin into the first hole:** Push the tip of the mixer nozzle right into the bottom of the drilled hole and approximately 2/3 fill the central (18mm) hole with resin, gradually withdrawing the nozzle as the hole is filled. **You do not need to fill the 40mm diameter recess with resin – The strength of the fixing is with the threaded section.** Try to judge the amount of resin required, bearing in mind the socket assembly will displace resin upwards in the hole. Don't waste the resin as you've got another hole to do!
- 10. Insert the first socket assembly into its resin-filled hole:** Assemble the RoundLock body into a socket if you wish to have more to hold onto. Then, slowly push the first socket assembly into its hole, twisting it gently, by hand, as you push it home. **Expect to feel resistance as you displace resin.**

The top of the socket assembly must finish flush/in contact with the surface of the floor.

Wipe away any excess resin with a paper towel or similar. Ensure there is no resin inside the socket or on the RoundLock – this must be clean to avoid problems with locking.

Try to avoid getting resin on your fingers. You may wish to use disposable gloves.

- 11. Mark the holes for the bottom of the door:** Check that the door is in the middle of any side-to-side float and then lower the door fully so that it is resting hard on the floor. Place the Lock 'n' Roller locking plate over the socket assembly just fitted so that the hole in the plate is centred over the socket. Mark through the square holes in the locking plate for holes to be drilled in the bottom of the door.

- 12.** Move the locking plate out of the way and open the door to a convenient height. Then use a centre punch to help locate the drill and, with eye protection, drill through the door with a 4mm pilot and then an 11mm HSS drill bit for the M10 coach bolts to locate the locking plate. Clean any burrs on the drilled holes, taking care not to get cut as the burrs may be sharp.

- 13. Loosely fit the locking plate to the door:** Using the coach bolts and shear nuts supplied, fit the locking plate *loosely* to the bottom of the door. The shear nuts are fitted without washers on the *inside of the door* and with the hexagonal head pointing outwards, as shown in the photo. Spin the nut onto the bolt thread in each case but only finger tight at this stage. The locking plate should be



held firmly in position but you should not shear the heads off the nuts, yet.

Now check the locking action: Lower the door again and check that the locking plate closes down against the floor. You should now be able to fit the RoundLock, **carefully, as the resin is still setting**, into the socket (see the usage instructions below for more guidance). If the lock will not fit, you should loosen the shear nuts and adjust the position of the locking plate until the lock can be fitted satisfactorily.

14. Tighten the shear nuts: Using a 19mm AF spanner or socket or adjustable wrench, tighten the shear nuts until the hexagonal head shears off, leaving just the conical anti-tamper surface.

Caution: Be careful that you do not slip or graze your knuckles when the nut head shears off. Reposition the spanner etc regularly so that the head shearing off will result in your hand moving *away* from the other bolts etc.

15. If you are fitting another locking plate in the opposite corner of the door, repeat the steps above. Take care with the spacing between the locking plates if the door 'floats' side to side. We recommend that you *jiggle* the door sideways so that the first locking plate is correctly centred over its bolt when setting the position of the second locking plate. Each time you lower the door during the fitting process, check that the first plate is still centred. If you do this, you can ensure that the separation between the locking plates matches the separation between the holes in the concrete, so both plates can be locked correctly.

Use your experience of resin volume from the first hole to judge the amount of resin required for the other holes. The total volume of resin in the FIS VS 100 P cartridge is ejected with approximately 12-14 turns of the screw plunger, so be wary of running out of resin whilst fitting the second socket. Further resin cartridges are available at extra cost, as are cartridges with larger capacity, and also mesh sleeves for situations with large voids/air spaces.

16. Leave the socket(s) undisturbed while the resin sets: We recommend that you leave the socket(s) for 1-2 hours or overnight to ensure the resin is fully hardened before fitting the lock and using the Lock 'n' Roller. Try to avoid disturbing the socket(s) during this period.

17. The installation is complete once the resin has set. Well done ☺ The resin cures faster in warmer temperature environments. For example, it will begin to cure in 20 minutes at 10 Celsius; **within 10 minutes at 20 Celsius, or within 6 minutes at 30 Celsius.** We recommend that you insert and lock the RoundLock into a socket and pull it by hand firmly the following day to make certain it is properly fixed. Contact your supplier if you have any doubts or problems.

Using a Lock 'n' Roller

In order to lock the door: Lower the door over the sockets in the floor. If the door floats side to side, you may need to jiggle it a little to allow it to drop down over the socket(s) and to rest firmly on the floor.

Then, unlock the RoundLock and insert it through the locking plate and lock it in position. Remove the key.

When the lock is correctly in place, it should look like the photo here (left side shown): **TBC**

Fit the second lock similarly.

Note: The right-hand side locking plate and padlock are a mirror image of the left-hand side fitting shown here. I.e. the opening on one side of the locking plate faces toward the door frame in both cases (the door frame provides protection to the lock).

Both locks are normally *keyed-alike*, meaning that the same key will open both.

To unlock the door: Simply unlock and remove both locks.

Queries

What About the Damp Course in the Floor?

The chemical resin anchors re-seal the damp course as the resin hardens.

What if you have Poor Quality Concrete?

Any locking device is only as good as the substrate that it is fixed to. The chemical resin anchors cope better with poor quality concrete when compared with conventional expanding bolts. If you are concerned about the quality of substrate then please contact your supplier for advice. Since this is a user-installed product and we have no control over the quality of the substrate, we are unable to provide any warranty on the solidity of the mounting. You should be confident that your substrate is adequate for your needs.

What if the Concrete isn't Thick Enough?

If you find you are drilling into mud, sand or any other loose material, you should find an alternative location with better concrete. However, if you really have no choice about the location and it is not possible to re-concrete the area, you *may* be able to fill a hollow with a larger quantity of resin from another cartridge or by using mesh sleeves to constrain the resin in situations where there is an air space or void. Follow the instructions supplied by the manufacturer. Again, you should be confident that this is adequate for your needs.

Does the Resin Have a Shelf Life?

We recommend that you install the product within one year of purchase. The resin cartridges should be kept out of direct sunlight and in the range +5 to +25C.