



# RadBox<sup>®</sup>

## Installation Instructions

RadBox is an efficient alternative to brick and concrete underground access chambers, offering strength, versatility and rapid installation. A wide range of sizes from 450mm x 450mm up to 2025mm x 2025mm are available.

### Important Guidelines

Radbox is suitable for use in the grass verges of roads, footways, pedestrian areas, car parking areas and slow moving traffic areas such as access roads. It is NOT normally recommended to be installed in the surface of normally trafficked highways where fast moving vehicles have access due to the unknown long term effects of cyclic loading on plastic chambers.

If necessary for carriageway installation it is advised that the installer ensures a reinforced concrete C40 base, a full backfill surround of C40 concrete and an adequate cover slab that will, during operation, dissipate the top-load around the backfill and not directly onto the chamber. Final criteria to be verified by your structural engineers.

RadBox has a top load rating of 40t for sizes 600x600mm and above. Smaller chambers have a load rating of 12.5t

A frame and cover meeting the requirements of EN124 Class B125 or greater as specified must be used

Throughout the installation process, the site shall be properly signed and guarded

All other safety precautions required by legislation, the customer and as specified by the contract, local authorities, other landowners and the police must be observed at all times

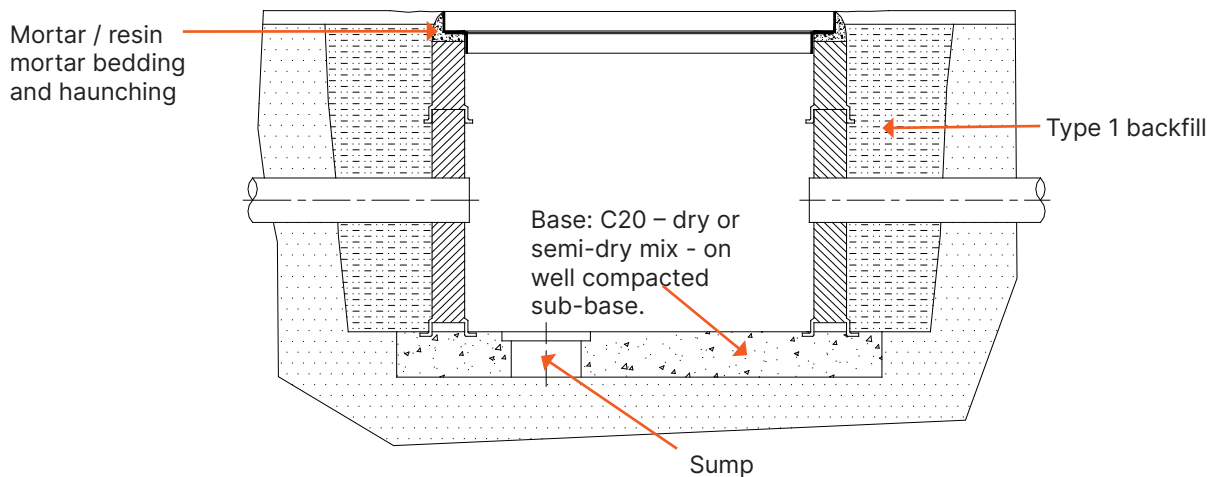
### 1. Chamber Depth

The RadBox can be installed to a nominal maximum depth of 1500mm (3 x 500mm sections) without the need for concrete backfill. Depths of 2000mm or more are possible in certain circumstances provided the manufacturer has supplied the chamber specifically for such a situation.

### 2. Excavation

Mark out an area sufficient to allow for backfilling and compaction around the chamber.

Within the marked area, excavate from finished surface level to the total depth of the chamber. Allow additional depth for the concrete base and for the frame & cover.

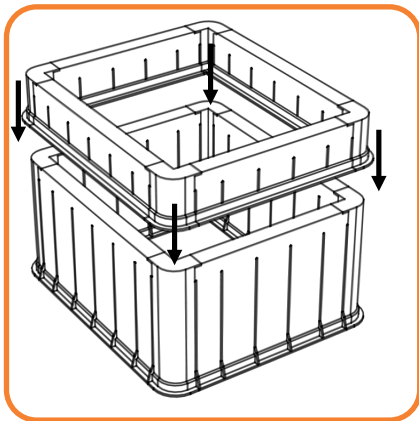
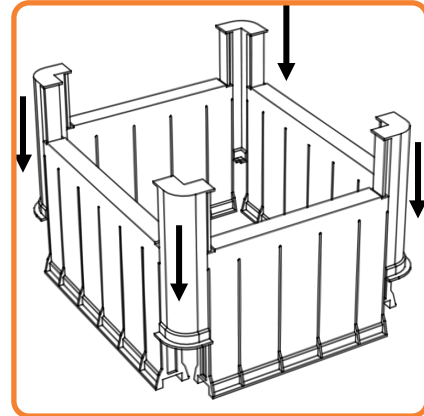




### 3. RadBox Assembly

RadBox sections can be assembled either in the hole or on the surface, as convenient. Ensure that the chamber is installed the right way up, as illustrated beside. Take note of any special labelling on the RadBox components, which could for example differentiate upper and lower sections.

Assemble each section by driving home the corner pieces. Cushion hammer blows with a wooden batten – do not strike the plastic directly.



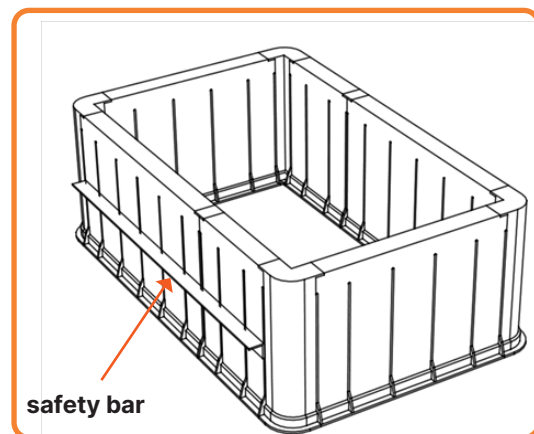
### 4. Additional Sections

Additional sections of 150mm or 500mm high can be stacked, up to a maximum depth of 1500mm.

This assembly operation is normally carried out after the lower section(s) have been installed on the concrete base. Clear any debris and push the next section firmly onto the section below. Ensure they click securely into place.

### 5. Safety Bars

Longer panels are factory fitted with a safety bar. The RadBox should be assembled with the safety bar on the outside.



### 6. Duct Entries

Duct entry holes can be drilled using a general purpose hole saw. Fitting a longer pilot drill in the hole saw helps align the holes in the inner and outer skins. Where possible, drill the duct entry holes before installing the chamber. It is possible to drill duct entries in any location compliant with required clearances and separation standards. This includes drilling through the joint between two rings if necessary.

Do not cut or discard steel safety bars, if fitted. If absolutely necessary, a safety bar can be moved by a maximum of 100mm. Use **all** the original fixing screws to re-fit. The safety bar **must not** be moved onto a different panel.

RadBox is available with pre-drilled duct entry holes if specified.

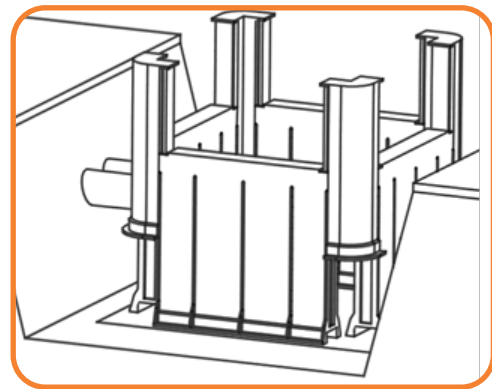
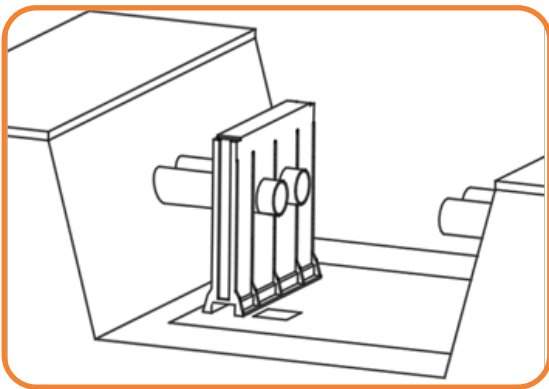
## 7. Chamber Base

Compact the material in the base of the excavation. Engineering brick can be used to define a level for the four corners of the RadBox. The brick should sit firmly on the compacted sub-base and at a level that will allow the RadBox to be bedded into the concrete base, see below.

Construct a concrete base (C20, either dry or semi-dry mix) 100mm deep, or as otherwise specified. Construct a sump or soakaway in the base if specified.

## 8. RadBox Installation

Install the first section of RadBox without delay so that it can be bedded into the uncured concrete by at least the depth of the bottom flange, and down to the engineering brick reference points if they are used. Check levels before adding further sections.



Where there are ducts already in the ground, and therefore difficult to manipulate, the panels can be threaded over the ducts and the remainder of the RadBox then assembled in the excavated hole. Using a dry or semi-dry mix allows the chamber installation to be completed straight away. With a wet mix the floor should be allowed to cure before installing subsequent sections and backfilling.

The floor shall be finished using a float and trowel to achieve an even surface sloped slightly towards any sump or soakaway.

### 9. Installation of Chamber Furniture

Bolt-on furniture (steps, cable bearers and wall brackets) is available from your RadBox supplier. Each item comes complete with fixings for secure fitting to the chamber wall.

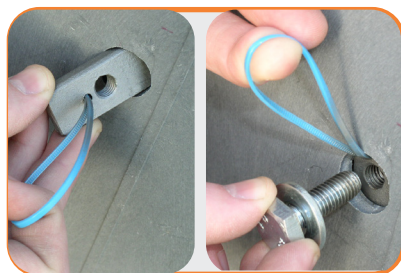
#### Step



Use step as a template to mark 2 holes



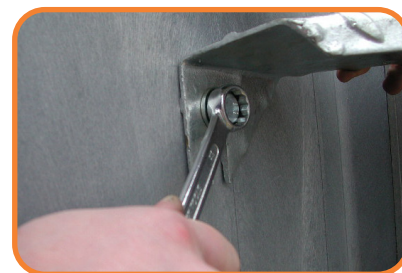
Drill 22mm holes with holesaw or flatbit



Insert each toggle and fit screws and washers loosely



Fit step over loose screws



Tighten screws

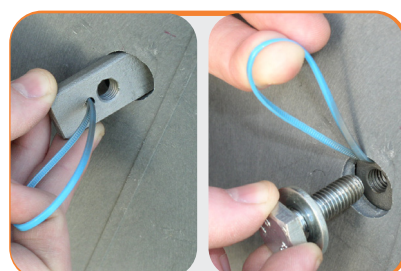
#### Wall Bracket



Use step as a template to mark 2 holes 15mm from edge of rib



Drill 22mm holes with holesaw or flatbit



Insert bottom toggle only and fit screw and washer loosely



Fit bracket over bottom screw. Insert top toggle and fix bracket with screw and washer



Tighten both screws

## 10. Frames, Covers, Cover Slabs

A range of compatible frames and covers are available from your RadBox supplier. Installation should be carried out according to the specific instructions for the chosen frame and cover.

Pre-cast cover slabs can be used in conjunction with RadBox.

Place the frame and cover on the chamber prior to backfilling. Once compaction is complete, the cover can be removed and the frame mortared onto the chamber.

## 11. Re-Instatement

As-dug material can be used in agreed applications; otherwise the use of Type 1 aggregate is necessary. RadBox does not require the use of concrete backfill but this can be used in situations where additional stability is required, for example in poor ground conditions.

Compact the backfill evenly in layers to the required standard. Take care that the backfill material is well compacted around and between any ducts. Work evenly around the chamber and avoid over compacting or ramming the side of the chamber to the extent that it might disturb its position or cause the structure to bow to any degree.

It is normal to use a dry or semi-dry mix concrete around ducts where they enter the chamber to ensure a strong, firm installation.

Complete the re-instatement to the finished level, using the specified materials and in strict accordance with the re-instatement conditions.

For more information on the access chambers product range,  
please contact our sales team on:

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