

Specification for Installation of RADBOX[®] Access Chambers

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1 General Information

RADBOX[®] is an efficient alternative to brick and concrete underground access chambers. It offers strength, versatility and rapid installation, and is available in a wide range of sizes from 450mm x 450mm up to 2025mm x 2025mm.

RADBOX[®] satisfies the requirements of EN124 Class B125 when tested freestanding and up to Class D400 in backfilled condition. It is suitable for use in the grass verges of roads, and in footways, pedestrian areas and car parking areas. **It is NOT to be installed in the surface of normally trafficked highways where fast moving vehicles have access.**

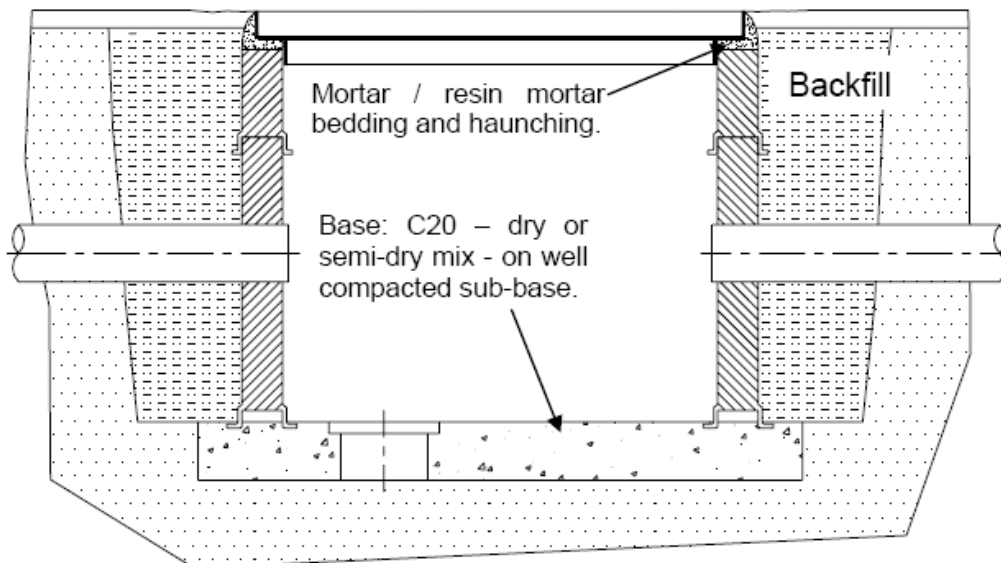
A frame and cover meeting the requirements of EN124 Class B125 or greater as specified shall be used.

2 Safety

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

Additionally, all other safety precautions required by legislation, the customer and as specified by the contract, the Local Authorities, other landowners and the Police shall be observed at all times.

3 Installation



Typical RADBOX[®] Installation

3.1 Chamber Depth

The RADBOX[®] can be installed to a nominal maximum depth of 2000mm (4 x 500mm Sections) without the need for concrete backfill.

3.2 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.

3.3 RADBOX[®] Assembly

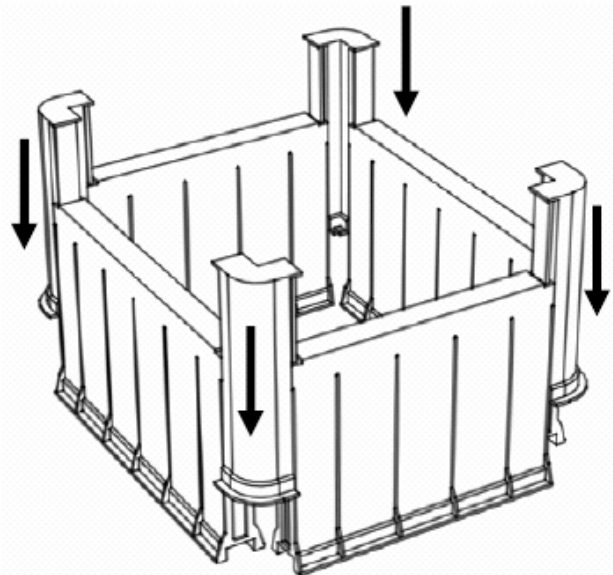
RADBOX[®] sections can be assembled either in the hole or on the surface, as convenient.

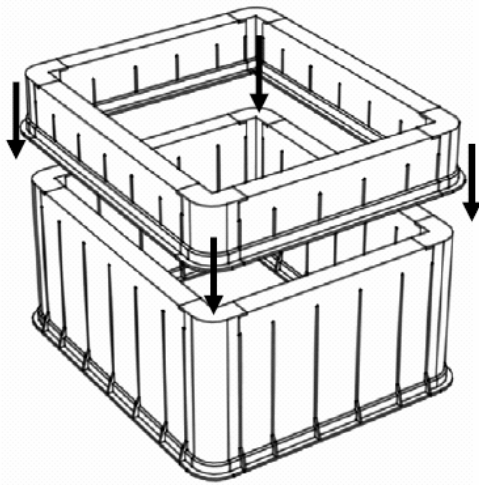
Ensure that the chamber is installed the right way up, as illustrated below.

Take note of any special labelling on the RADBOX components, for example to differentiate upper and lower sections.

Assemble each section by driving home the corner pieces. Cushion hammer blows with a wooden batten.

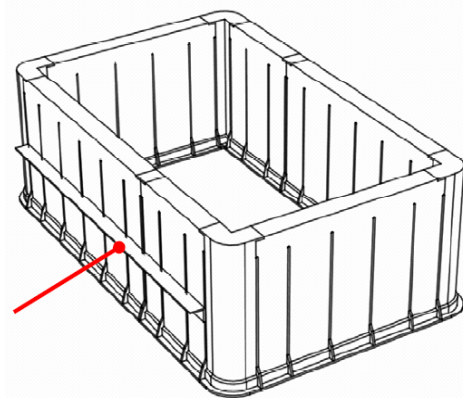
Do not strike the plastic directly.





Additional Sections 150mm or 500mm high can be stacked up to a maximum depth of 2000mm.

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.



Safety Bar

Longer panels are factory fitted with a Safety Bar.

The RADBOX[®] should be assembled with the Safety Bar on the outside.

NOTE: When RADBOX[®] is correctly built the panels and corner sections lock together. Please make sure that the panels are being installed in the correct order as once they are locked together they cannot be separated without causing damage to the locking lugs.

3.4 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.

3.5 Chamber Base

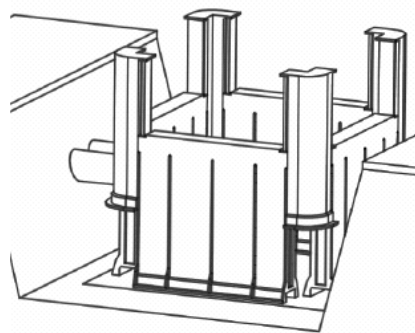
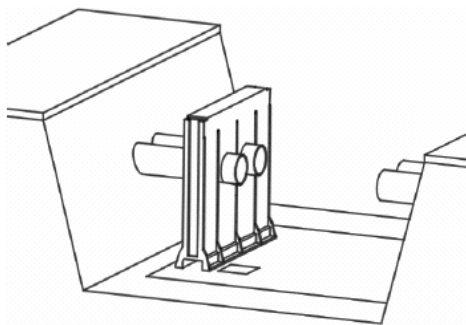
Compact the material in the base of the excavation. Engineering brick can be used to define a level for the four corners of the RADBOX[®]. The brick should sit firmly on the compacted sub-base, and at a level that will allow the RADBOX[®] to be bedded into the concrete base, see below.

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

3.6 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 to them 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 soak away.

3.7 Installation of Chamber Furniture

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

3.8 Frames, Covers, Cover Slabs

A range of compatible frames and covers is available from Salmor. 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[®]. Details, along with installation instructions are available from Salmor.

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.

3.9 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.