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# **Specification for Installation of Modular Access Chambers – MJB104**

# INDEX

1	General information.....	3
2	Safety .....	3
3	Installation Procedure .....	3
3.1	Chamber Depth.....	4
3.2	Duct Entries.....	4
3.3	Excavation.....	4
3.4	Access Chamber Base .....	4
3.5	Optional plastic floor.....	5
3.6	Installation of the QUADBOX.....	5
3.7	Box replacement .....	5
3.8	Benching .....	5
3.9	Security Covers.....	5
3.10	Termination of Ducts .....	6
3.11	Installation of Access Chamber Furniture.....	6
3.12	Installing the Mobra.....	6
3.13	Re-Instatement.....	7
3.14	Frame and Cover Installation.....	7



## 1 General information

The QUADBOX underground access chamber is designed for strength, versatility and rapid installation.

QUADBOX satisfies the requirements of EN124 Class B125 and BT specification LN688. 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**, whether such roads are classified or not.

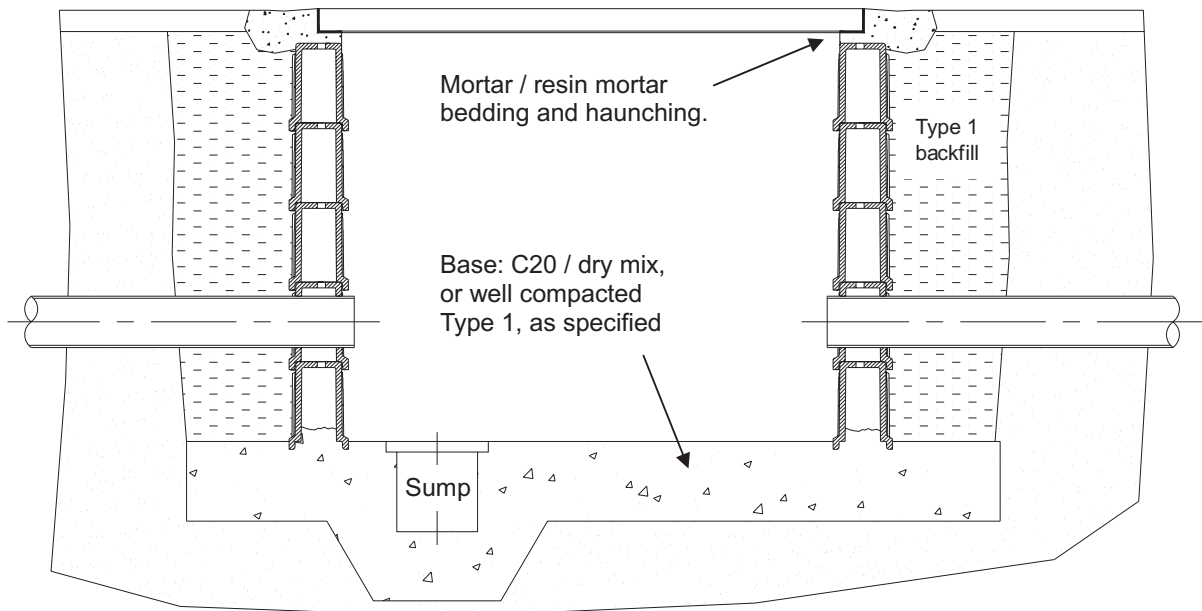
A frame and cover meeting the requirements of EN124 Class B125 or greater as specified shall be used.

## 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 Procedure



Typical QUADBOX installation

### 3.1 Chamber Depth

Chambers rings are available at a standard depth of 150mm.

### 3.2 Duct Entries

Where possible, drill the duct entry holes before installing the chamber. A heavy duty, long reach holesaw for use with an electric or air drill is available from Salmor Industries Ltd (Tel 028 4066 2414). Alternatively, a general-purpose holesaw can be used. (98 or 102mm cutter for Duct 54)



QUADBOX is marked with duct positions that ensure correct duct spacing and accurately aligned holes. Locate the pilot drill in the centre mark and drill at moderate speed so as not to generate excessive heat. Drill through both walls or, for precision alignment, drill separately from the inside and the outside using the drill centre marks.



Note the secondary centre marks for positioning an array of smaller ducts

QUADBOX is available with pre-drilled holes if specified.

### 3.3 Excavation

Using a QUADBOX ring as a guide template, mark an area all round the outside, 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. For a 5-ring chamber the excavation depth is 950mm. Additional excavation is required local to the sump.

### 3.4 Access Chamber Base

Compact the material in the base of the excavation and install a concrete base (C20 or dry mix) 150mm deep, or as otherwise specified. Construct a sump in the base if specified. A 25mm raised bead of concrete will provide additional bedding support in heavily loaded environments or where the chamber might be loaded before the base is fully cured.



The floor shall be finished using a float and trowel to achieve an even surface sloped slightly towards the sump hole grating where the customer has specified a sump.

QUADBOX is also suitable for installation on a well compacted Type 1 base, if specified. This method is particularly suited to chambers with pre-fitted plastic floors.

### 3.5 Optional plastic floor

Quadbox is available with a factory fitted plastic floor, either screwed or welded in place as required. The floor can incorporate provision for a sump.



### 3.6 Installation of the QUADBOX

QUADBOX can be installed, backfilled and reinstated immediately after the base has been poured - there is no need to wait for it to cure. Remember that the chamber will bed in by approximately 10mm into a concrete base if the backfill is vigorously compacted before it has cured.



Set the first segment level on the base, bedding it firmly in, and check that it is level. It is useful to trowel a bead of concrete around the outside of the ring to create a seal.



Install the additional segments of the chamber (with due allowance for the frame and cover installation) to the final depth ensuring that each layer is fully seated.

### 3.7 Box replacement

QUADBOX provides an efficient method for inserting chambers into an existing network, and for replacing chambers that have been damaged or need to be enlarged.



To build over existing cables or ducts, cut a suitably sized duct entry, see 'Duct Entries' section; then with a hand saw cut from the bottom of the ring to make an open bottomed arch.

### 3.8 Benching

To bench over unavoidable obstructions, cut away the QUADBOX ring(s) as is necessary and use C20 or dry mix concrete to encase the obstruction and form a firm seating for the chamber.



### 3.9 Security Covers.

Fixings for security covers are pre-installed in what should be the topmost chamber ring. It is important that this ring is installed last. Where specified, security covers will be supplied pre-fitted in the QUADBOX and should again be installed as the topmost ring. It should be noted that padlocks for the security cover are not included in the secure MJB104 kit.



### 3.10 Termination of Ducts

If the duct entries have not already been drilled, a long-reach holesaw (see section 3.2, above) can be used to drill through from the inside of the chamber.

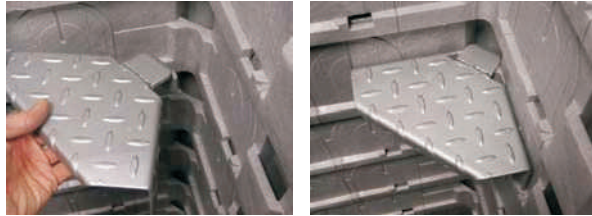
The spigot end of the ducts shall be passed through and protrude into the chamber inner wall surface by 10mm and shall be square to the chamber wall. Any burrs shall be removed from the ducts.

If required, to ensure a seal against the ingress of fines and water, a proprietary brand of clear mastic sealant shall be applied around each and every duct entry point both inside and outside the chamber.

### 3.11 Installation of Access Chamber Furniture

Install the specified furniture (e.g. cable bearers, brackets, steps) by slotting the Radius purpose-designed fittings into the required positions.

Installing the  
Corner Step



Installing the  
Cable Bearer



### 3.12 Installing the Mobra

Plug the two mounting tubes into the corner pockets at one end of the chamber. The tubes are normally hooked into the third ring down



Plug the Mobra into the mounting tubes and push it firmly down into position.



### **3.13 Re-Instatement**

QUADBOX is designed as a rigid chamber and does not require the use of concrete backfill. As-dug material can be used in agreed applications, otherwise the use of Type1 aggregate is necessary.

Using Type 1 aggregate, compact the material in 150mm layers around the chamber using a powered impactor, taking extreme care to ensure that any ducts are supported adequately and that the line and level of the chamber is not disturbed from its seated position in any way during the re-instatement process.

During the initial compaction around the chamber base, it is particularly important to avoid over compaction or ramming the side of the chamber to the extent that it might disturb its position.

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

### **3.14 Frame and Cover Installation**

For grass verges and similar areas the frame can be fitted directly onto the top surface of the QUADBOX, but should be secured with a 200mm wide mortar haunching at least 100mm deep. Where the frame must be completely rigid, such as in pedestrian areas, the frame should be bedded on a layer of mortar and the surround made good back to solid paving material. A resin mortar should be used if the cover is likely to encounter vehicular loads, or where the installation is likely to be disturbed before conventional mortar has cured. If the frame requires levelling to the ground surface, or to a newly raised surface level, special shim packs and spacer components are available from the supplier. These should be used in conjunction with resin mortar to build the frame up to the required level.

Finally, place the cover in position taking care not to jolt the frame.

