

**Specification for Installation of Quadbox  
Modular Access Chambers JMF102, JMF104, JMF106**

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## 1 General information

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

QUADBOX is manufactured by Radius Plastics Limited and supplied by Salmor Industries Limited. 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 where fast moving vehicles have access.**

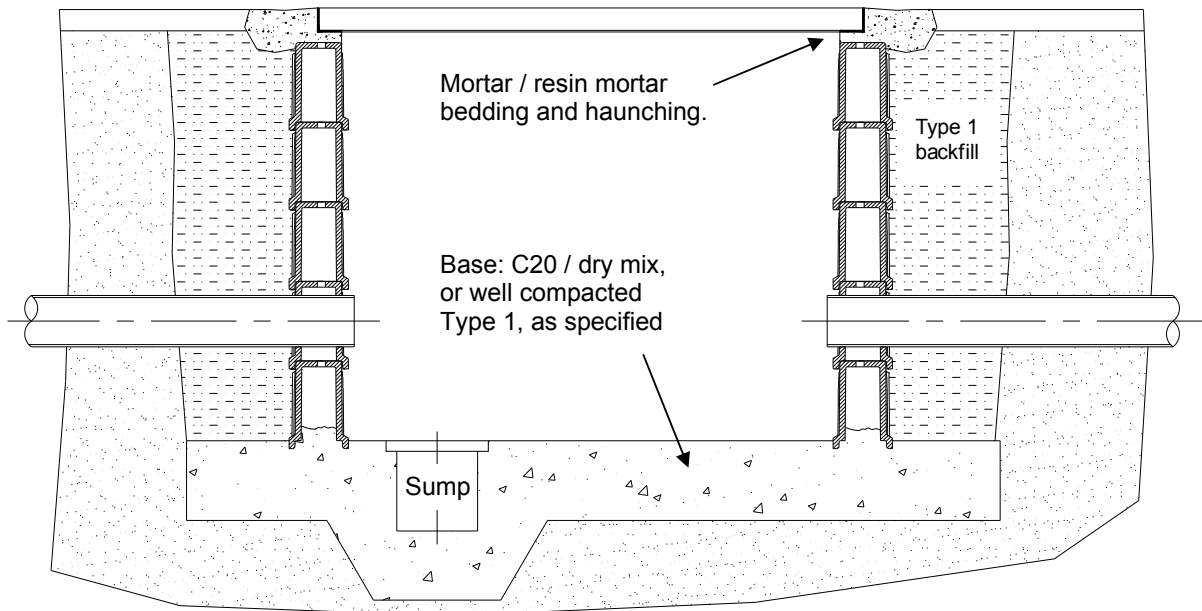
A frame and cover meeting the requirements of EN124 Class B125 or greater as specified shall be used.

## 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 Procedure



Typical QUADBOX installation

### 3.1 Chamber Depth

Chambers rings are available at a standard depth of 150mm. Standard JMF104 is 4 rings deep, road crossing JMF104 is 5 deep, standard JMF106 is 5 deep and road crossing JMF106 is 6 deep. Customers should refer to their clients drawings and specs for relevant chamber dimensions.

### 3.2 Duct Entries

Where possible, drill the duct entry holes before installing the chamber. A heavy duty, long reach hole saw for use with an electric or air drill is available from the supplier, Salmor Industries Limited (Tel 028 3831 3100). Alternatively, a general-purpose hole saw 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 the lowest point of the footpath surface 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 965mm. 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. The segment should be tamped into the base to provide a solid foundation for the chamber.



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 Overbuilding with QUADBOX

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.



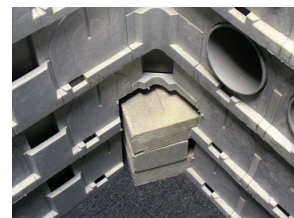
To build over existing cables or ducts, cut a suitably sized duct entry, see 'Duct Entries' section; then with a hand saw cut from the bottom of the ring to make an open bottomed arch.



Alternatively, a ring may be drilled and then cut longitudinally for reassembly around an existing duct. In these instances, it is important that a complete ring is installed above the cut ring.

### 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 fitted as the topmost chamber ring. It is **important** that this ring is installed last to allow for future installation of a secondary security system.



Where ordered, 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 hole saw (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 may be applied around each 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 purpose-designed fittings into the required positions.

Installing the  
Corner Step



Installing the  
Cable Bearer





### 3.12 Installing the Mobra

The Quadbox chamber has been designed to receive the Tyco Mobra 2A with the use of a kit available from the supplier.

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 bracket into the mounting tubes and push it firmly



### 3.13 Re-Instatement

QUADBOX is designed as a structural chamber and does not require the use of concrete backfill (although concrete can be used to achieve a greater loading strength). 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 compactor, 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 (maximum depth 50mm) 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.



## Camber Adjustment

If the frame requires levelling to the ground surface, or to a newly raised surface level, rising frame units (as shown) are available as an option.

These should be used in conjunction with resin mortar to build the frame up to the required level. Where levels mean that the cover needs raised by more than the 50mm allowable mortar bed, bricks, quarry tiles etc. should **not** be used to adjust the height of the cover. A further Quadbox section should be cut horizontally, with the voids of the cut chamber filled with mortar or concrete.



### 3.15 Customer Support

Should you require any further assistance please contact:

Salmor Industries Limited  
4 Silverwood Industrial Estate  
Lurgan  
Craigavon  
Co. Armagh  
BT66 6LN

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