



Specification For Modular Box Construction

Access Network Policy

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1. Fibrus Build Policy

Fibrus Modular Box policy defines a set of requirements / standards for direct labour, Contractors, and their people (operatives) when building the Fibrus telecommunications network. This Policy has been benchmarked against Openreach and other CPs' Joint Box policies, to ensure uniformity of quality and safety standards across the telecoms industry.

All operatives must hold valid accreditations to conduct installation of Joint Box construction work in the fibre network. It is the operatives' responsibility to conduct Risk Assessments before starting, and during, any Joint Box construction work.

At all times adherences must be paid to the guidelines as detailed in HSG47 - Avoiding Danger from Underground Services.

At all times adherences must be paid to the guidelines as detailed in HSE – Avoiding Danger from Overhead Power Lines Guidance note GS6 (4th Edition).

Joint Box construction should be in accordance with Department of Transport guidelines, so that they avoid creating safety hazards to physically and visually disabled people.

Consideration should also be given to the following aspects which may impact on the installation and maintenance of the Fibrus network

- Safe access to area of work for concrete base construction
- Access by Mechanical Aids in areas for box construction
- Surface reinstatement requirements following duct installations and testing
- Adherence to minimum depths and locations

All operatives working in the Fibrus Network must adhere to the OFCOM Code of Practice relating to Electronic Communications Code (Conditions and Restrictions) Regulations 2003 and Part 16 of Schedule 2 of the Town and Country (General Permitted Development) (England) Order 2015 (GPDO) and the guidelines and safe working practices outlined in Section 4 of this document.

These requirements ensure Fibrus achieves the required outcomes in terms of meeting the strategic direction, architectural design, financial targets, and quality standards for the Fibrus network.

Fibrus vision for street works is:

- Safety is the number one priority
- Damage to underground assets is avoided
- ISPs/CPs to work together and in partnership with local authorities to minimise disruption
- ISPs/CPs deliver consistent high quality
- ISPs/CPs maximise the use of sustainable methods and materials
- Street Works in the U.K. are regarded as world class

2. Introduction

This Document forms part of the Access Network Specification range of Technical Documents and applies to both Fibrus Direct Labour and External Contractors. The information below details the requirements to meet the policy for the provision of Joint Box construction within the Fibrus network. Practices and items of plant are only detailed where necessary to ensure that the Fibrus Network and plant is not compromised.

This document forms a part of the authorised portfolio of Fibrus' Network Policy documentation. Adherence to these standards and policy is mandatory. Any deviation presents a risk to the required outcomes and will be subject to future compliance audit / checking.

Before undertaking excavation work the Health and Safety Executive guidance note HSG47 – 'Avoiding Danger from Underground Services' should be followed, and every effort must be made to obtain asset owner records to identify plant.

Before commencing work, an on-site risk assessment must be conducted to verify that all the standard control measures are in place and that any additional hazards that may be present on site are identified, e.g., natural gas leak, surface water, contaminated land etc., are controlled. Having exposed the plant, a further risk assessment should be conducted to determine whether plant can be accessed without interference with third party ducting.

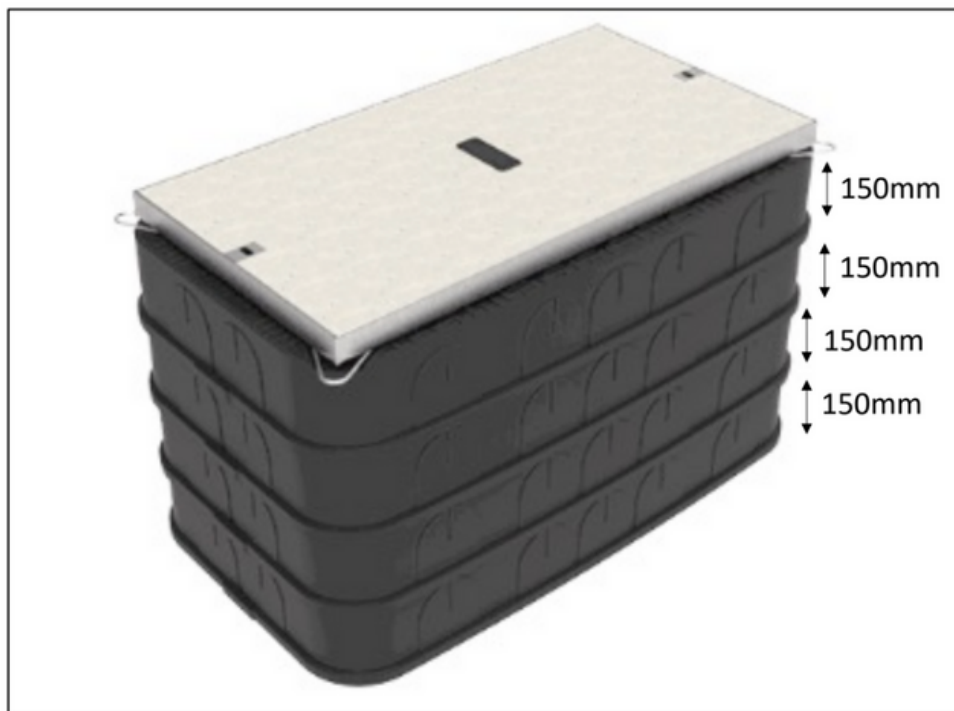
Joint Box construction that does not meet this policy, will fail any audit, and remedial action will be at the operative's expense. Delays will also ultimately jeopardise Fibrus' ability to provide service to our customers in a timely manner.

Caution: Policies are liable to change. Therefore, you must ensure this copy/material is from a controlled source e.g. The Fibrus' Library.

3.Scope

This document sets out the requirements for the design and construction of the JMF and Quad box Joint Boxes within the Fibrus Network. The Modular Joint boxes to be used are manufactured and supplied by Cubis Systems, Radius telecoms or an alternative provider meeting the same specifications as detailed in this document.

The diagram below shows a typical Joint box build using multiple 150mm modules to create the box structure.



The Modular underground access chambers are designed for strength, versatility and rapid installation.

They are suitable for use in prepared footways or unmade surfaces adjacent to carriageways within a defined kerb. If a kerb line is not present the modular box must be installed at least 1 meter away from the edge of the carriageway surface. 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 BS EN124:1994 Class B125 or greater as specified shall be used.

4. Network Applications – JMF/ Quadbox

Footway

JF2 & JF4 – Overbuild and Fibrus own boxes

JF6 – Stand-off from Openreach network handover box

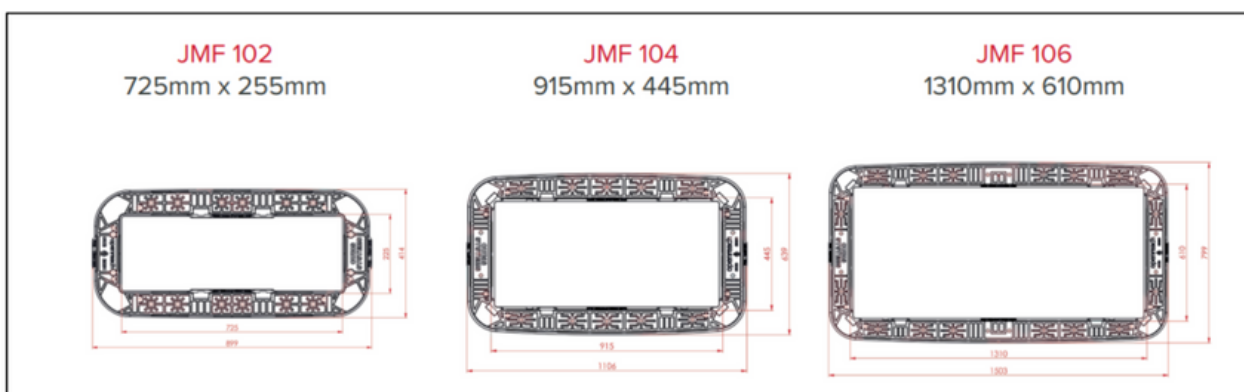
The Following Manufactures and products are approved for use on the Fibrus Network.
No other modular product or manufacturer can be used in Fibrus network without prior approval.

Box Type: JMF 102		
Manufacturer	Model	P/N (150mm deep module)
Cubis	JMF	JMF102
Radius	Quadbox	UY0002

Box Type: JMF 104		
Manufacturer	Model	P/N (150mm deep module)
Cubis	JMF	JMF104
Radius	Quadbox	UY0003

Box Type: JMF 106		
Manufacturer	Model	P/N (150mm deep module)
Cubis	JMF	JMF106
Radius	Quadbox	UY0004

Internal dimensions of the boxes are shown below:

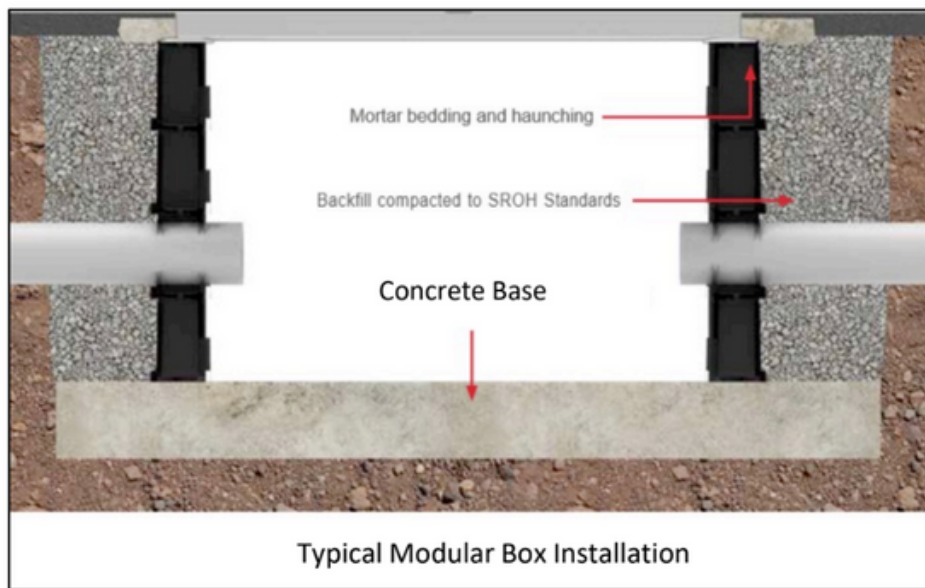


If any change is required from standard modules, the Contractor / operatives MUST refer to the Fibrus Planning Originator.

4.1 Modular Box Installation

Each box shall be installed as per detail outlined in this document.

A typical installation is shown below, however for the larger JF106 boxes, it is policy to fit sumps and use mesh reinforcement in the concrete base – detail of which can be found later in this document. The box type and site location will be specified in the CLD (Construction Level Design) work pack. Any issues should be referred to the Fibrus Work originator before start of work.



Throughout the installation process, the site shall be properly signed and guarded in accordance with the Safety at Street Works and Road Works code of practice (NRSWA 1991)

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

4.2.1 Chamber Depth

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

Standards depths for the finished box are as follows

Box Size	No Of Rings	Depth (mm)
JMF102	3	450
JMF104	4	600
JMF 106	5	750

Contractors /Operatives should contact Fibrus planning originator/ supervisor if these depths need to be changed for any particular installation.

4.2.2 Duct Entries

Where possible, the Contractor / operative should drill the duct entry holes before installing the chamber. A general-purpose hole-saw can be used.



The Composite box rings are 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. The maximum angle accepted for drilling holes is 45 degrees.

If an oversized drill is used or the duct entry is created using a hand saw, the open voids should be filled with min C32/C40 concrete or mortar. Alternatively, if the opening is less than 25mm greater than the diameter of the duct, mastic or silicon can be used to fill the void.

4.2.3 Excavation

Using a Modular ring as a guide template, mark an area all-round the outside, sufficient to allow for backfilling to SROH standards 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 (C35/C45) and for the frame & cover.



The bottom of the excavation should be level and free from large stones or rocks. 100mm of compacted Type 1 MOT is to be used to level and stabilise the area before pouring the concrete.

Concrete

Concrete to be of a grade C35/45 with a water cement ratio of 0.4 min. Cement content 380 kg/m³ with maximum aggregate size of 20mm.

Concrete must be provided in accordance with BS8500 (BS EN206)

If any change is required operatives MUST refer to the Planning Originator.

Care must be taken prior to, during and after working with concrete to ensure that the concrete or mortar ingredients, collectively or separately, are not allowed to enter gullies or drains. All highway surfaces footway or carriageway should be protected from concrete staining.

Where a contractor intends to use site mixed concrete for the construction of carriageway and footway Joint boxes, an initial design Certificate of Compliance must be submitted to the Fibrus works organiser or supervisor. This must be supported by strength Test Cube results, where the initial sample rate shall be 10 cubes tested at 28 days. Thereafter the rate of sampling shall be distributed through the production in accordance with Table 13 of BS EN206-1. Each sample shall consist of 2 cubes tested at 28 days. Compliance requirements shall be in accordance with BS8500: Part 2.

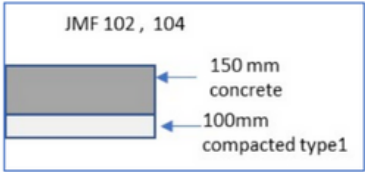
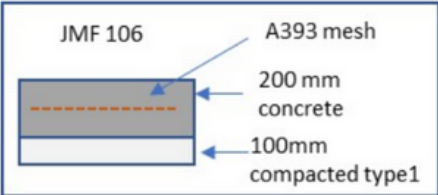
In addition to the sampling above, when required by Fibrus, 2 Test Cubes or Test Cores shall be taken by the contractor and, at Fibrus' discretion, shall be tested for quality assurance or case study. All testing shall be carried out in accordance with BS1881 and BS EN12350 - Testing Concrete.

The contractor shall hold the Test Certificates for 12 months and make them available for audit or inspection by Fibrus.

Where the integrity of a structure is impaired due to non-compliant materials or structural failure the structure shall, at Fibrus' discretion, be completely demolished and replaced.

4.2.4 JMF Chamber Base

The chamber base construction is per table below:

Base Detail		
102, 104	The base is to be a minimum of 150mm of concrete in depth, with a 100mm prepared sub-base, this is to be constructed out of type 1 stone.	 JMF 102 , 104 150 mm concrete 100mm compacted type1
106	The base is to be a minimum of 200mm of concrete in depth, 393 mesh at a min distance of 55 mm from any edge. A 100mm prepared sub-base, this is to be constructed out of type 1 stone.	 JMF 106 A393 mesh 200 mm concrete 100mm compacted type1



The chamber base is to extend 200mm in all directions beyond the footprint of the chamber rings. The base should contain one sheet of 1800 x 1100 A393 Mesh. For the JMF 6, The mesh should be placed in the poured concrete with suitable chairs and at a minimum coverage of 55mm from any edge.

4.2.5 Installation of the Modular Box

The box can be installed, backfilled and reinstated immediately after the base has been poured it is not necessary to wait for the concrete to cure. Remember that the chamber will bed in by approximately 15mm into a concrete base (C35/C45) if the backfill is compacted to SROH standards before it has cured.

The longer side of the jointing box shall be in line with the path of the ducts where possible.

The top surface of the box and the adjacent finished surface shall be level, or such as not to pose a danger to pedestrian or vehicular traffic.



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 using a rubber mallet or block of wood 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.



4.2.6 Modular Box Sump

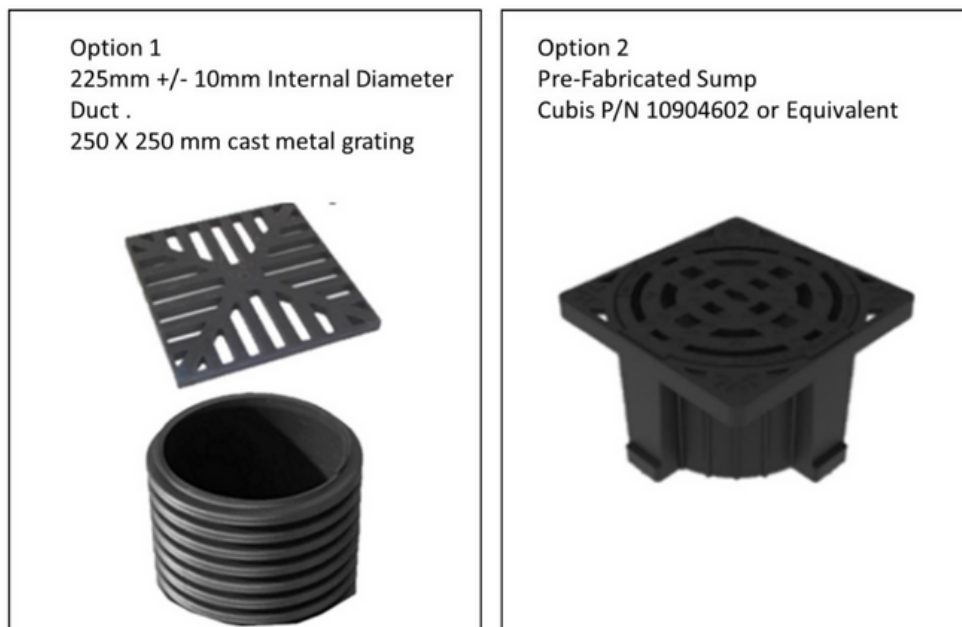
Fibrus policy is to provide a sump in JF6 boxes. The sumps are to be installed in the corner of the box floor (MIN 165mm from outside edges). The sump will allow access for a pump to be used if the box has water or other waste to be removed before working in the box.

Where sumps are to be fitted (in JMF06 boxes) the sump in shall have a depth of 70mm $\pm$ 10mm with a diameter of 225 mm. The grating shall be located squarely over the sump and should be easily removable from the pre-formed recess in the floor.

Alternatively, as option 2, the preformed recess could be built to suit a circular sump of 180 – 230mm internal diameter $\pm$ 5mm at the contractor's discretion.

The sump is to be finished with a flush fitting protective cast metal grating 250mm x 250mm. (see image below)

The top of the sump should be level with the floor of the junction box and the floor should have a slight fall towards the sump.



4.2.7 Overbuilding with Modular Boxes

The modular boxes provide 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, then with a hand saw cut from the bottom of the ring to make an open bottomed arch.



End View of Cut Ring



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 and below the cut ring. A bottom ring if cut vertically must be set into the concrete base (C35/C45) by 15mm.

A ring can be cut horizontally **or** vertically but not horizontally **and** vertically in the same ring.

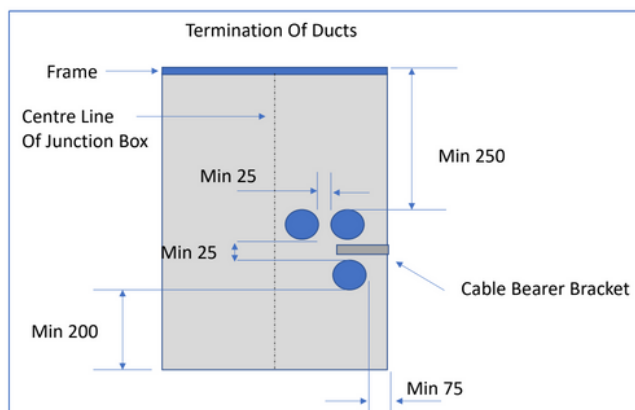
Note: The Contractor / operative should refer to the Openreach PIA CP documentation for the up-to-date requirements for boxes which are to be "adopted" by Openreach.

4.2.8 Termination of Ducts

If the duct entries have not already been drilled, a long-reach hole saw 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 a minimum of 10mm and a maximum of 25mm and shall be square to the chamber wall. Any burrs shall be removed from the ducts.

For footway boxes where the duct enters the box, the duct shall enter flush with the wall. They must not enter through corners and be no less than 75mm from the sidewall. They should enter wall at a minimum depth of 250mm from the top of the frame. Duct to clear the base by a minimum of 200mm (at least 1 modular section). Duct separation to be min 25 mm laterally and vertically.



Where the size of the box allows, the duct should enter the box offset from centre, such that a cable passing through the box can be secured to the cable bearer bracket with least deviation of route –

See diagram to left:

4.2.9 JMF Reinstatement

The Modular boxes are designed as a structural chamber and does not require the use of concrete backfill. Use Type1 aggregate for backfill.

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 reinstatement 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. Levels should be taken before and after reinstatement to ensure build quality.

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

4.2.10 Frame and Cover Installation

For grass verges and similar areas, the frame and cover should have a 100mm wide concrete surround constructed out of minimum grade C25/30 concrete to hold it in position. The surround should be a minimum depth of the frame (or up to 100mm). The finished level of the surround should be level with the top of the frame and the outside edge finished, straight and parallel to the frame. The frame should be bedded to the upper most modular ring using MF 60 bedding mortar (or equivalent) with a maximum depth of 50mm. If the frame is in a paved or hardened surface footway, no surround is required.

4.2.11 Chamber 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 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 ring section should be cut horizontally (minimum depth to be a 40mm wall section), with the voids of the cut chamber filled with minimum grade C32/C45 concrete or mortar.



5: Composite box accessories

5.1: Cable Bearers

Cable bearers are to be installed along the length of rectangular boxes to allow for optimum positioning of cable joints. Two sets of cable bearers is the minimum number to be installed in each box, large boxes with many duct entries may require more.

The cable bracket and bearer drop ins can be bought directly from the supplier; these are the only permitted accessories allowed on the infrastructure.

If for any reason change is required operatives MUST refer to the Planning Originator for written approval of works to be completed.



Bearer bracket kits are available from Mills Limited, but equivalents can also be used.

Mills Limited Part Nos :
 Bearer Kit for 102 box : S83-4534
 Bearer Kit for 104 box : S83-0683
 Bearer Kit for 106 box : .S83-4535

5.2: Steps

Standard depth JMF 102 and 104 Boxes do not require any steps. The Standard JMF 106 box requires 2 steps.

For the JMF 106 use the drop in step. If the box is on the roadside insert the drop in steps on one corner of the box that is closes to road in rings 2 and 4 as shown below.

Drop in steps are available from Mills Limited, but equivalents can also be used.

Mills limited part no: S83-0684



5.3: BPEO/ MPT Mounting methods

Due to the structural strength and material composition a standard mobra bracket and arm cannot be used to mount Fibrus equipment. All equipment must be secured internally using mobra mounting Brackets. Larger equipment and MPT's (BPEO sizes 2 & 3) can be mounted using a drop in bracket that has been designed for the boxes.

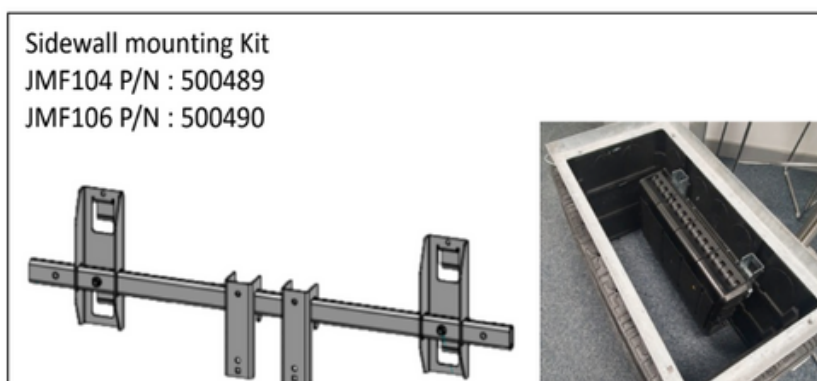


5.3.1: Mounting equipment for composite boxes

Composite box	Equipment for mounting	Mills Item codes (respectively) or equivalent	BPEO sizes that can be mounted
JF2	Mobra mounting brackets, Small mobra bracket, Mobra arm short,	(S83 – 0527), (S83 – 0529), (S83 – 0528)	0, 1 and MPT's
JF4	Mobra mounting brackets, Medium mobra bracket, Mobra arm short and long	(S83 – 0527), (S83 – 0525), (S83 – 0528), (S83 – 0526)	0, 1, 1.5 and MPT's
JF6	Mobra mounting brackets, Medium mobra bracket, Mobra arm short and long. Side mounting	(S83 – 0527), (S83 – 0525), (S83 – 0528), (S83 – 0526)	0, 1, 1.5, 2 and MPT's

*BPEO equipment **sizes 2 and 3 must be** side mounted in above joint boxes.

The parts below have been developed for side mounting the BPEO size 2 and 3 enclosures.



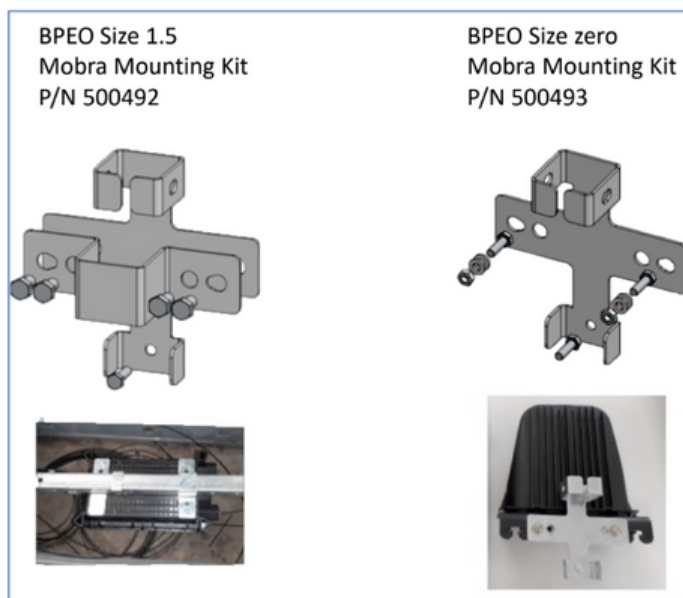
** No step labels must be added to all mobra arms on installation. (Mills part number S00-4996 or equivalent).

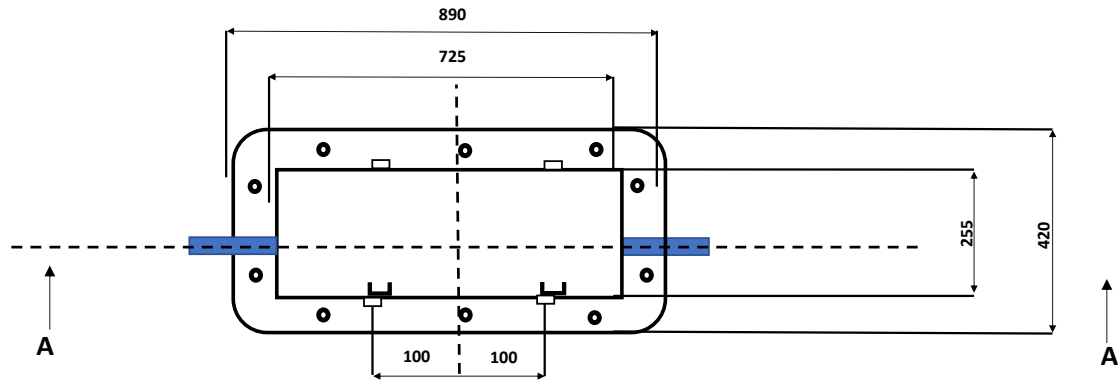


*** MPT's can be mounted using a mobra and or the Newly developed drop in brackets

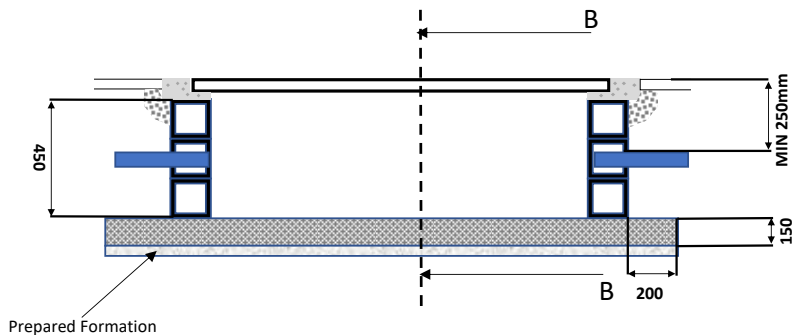


*** New brackets are also available for mounting BPEO size zero and 1.5s on Mobra arms.

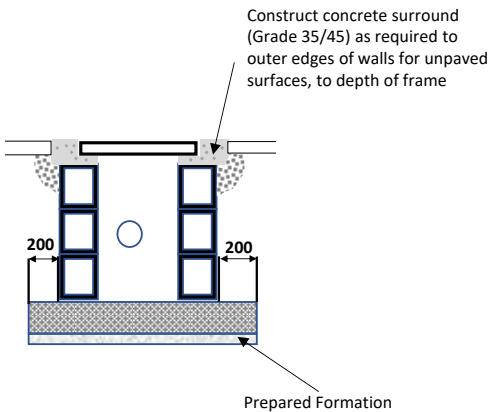




Plan



Section A- A



Section B- B

TOLERANCES
BEDDING MATERIAL ± 5
DUCT ENTRY POSITION ± 25mm
WALL FLATNESS ± 11mm
F & C ROCKING NIL
F & C SURROUND IN UNMADE ± 5mm
F & C UNSUPPORTED OVER BOX ± 5mm
VERTICALITY OF WALLS ± 15mm
SLAB THICKNESS -10 TO + 150mm
BOLT FOUNDATION ± 5mm

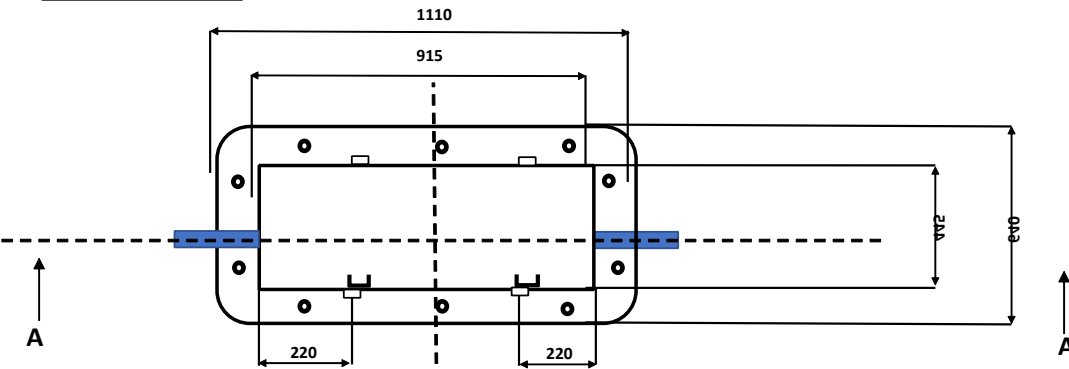
SCHEDULE			
ITEM	Description	No. OF	
		2A	2B
1	CABLE BEARERS, WALL TYPE No.2	2	2
2	FRAME AND COVER FOOTWAY No.2C	1	1
3	PIN LOCKING CABLE BEARER	2	2
4	BRACKET CABLE BEARER No. 5	2	2

NOTES.

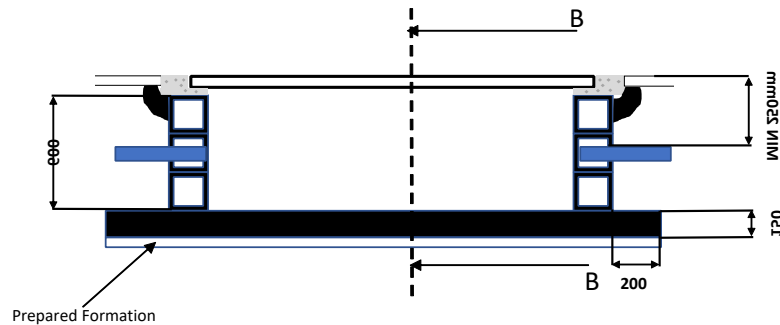
1. END DUCTS TO BE IN LINE.
2. DUCT ENTRY POSITIONS SHOULD BE PREDRILLED BEFORE BOX IS INSTALLED. HOLES/ SAW CUTS CAN BE USED TO ACCOMODATE EXISITING DUCTS PROVIDED THEY ARE COMPLIANT WITH CLEARANCE AND SEPERATION STANDARDS. AVOID DRILLING BETWEEN TWO MODULAR SECTIONS, IF UNAVOIDABLE SEAL AREA WITH EXCESS RESIN BEDDING, RESIN MORTAR OR CONCRETE.
3. STEPS ARE TO BE PLACED IN ALL BOXES DEEPER THAN 700mm. PREFERRED STEPS ARE DROP-IN CORNER STEPS.
4. BEDDING MORTAR WILL BE USED TO ACHIEVE FINAL LEVEL OF FRAME AND COVER
5. SEE SPECIFICATION FOR STANDARD DIMENSIONS OF EACH MODULAR BOX.
6. IDEALLY THE TOP TWO RINGS SHOULD NOT BE CUT
7. BASE TO BE 200mm GRADE 35/45 CONCRETE WITH W/C RATIO OF 0.4. MIN CEMENT CONTENT 380kg/m³ AGGREGATE MAX SIZE 20mm ALL IN ACCORDANCE WITH BS8500 (BS EN206)
8. THE SUMP IS TO BE CONSTRUCTED OUT OF A PIPE THAT IS A MIN OF 225mm IN DIAMETER OR THE CUBIS PREFABRICATED SUMP. THE SUMP WILL BE INSTALLED IN THE CORNER OF THE BOX, MIN 165mm AWAY FROM THE OUTERMOST WALLS IN ALL JMF 106 BOXES.
9. ALL WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH THE SPECIFICATION FOR HIGHWAY WORKS (SHW) AND ALL SUBSEQUENT AMENDMENTS.
10. 1 No. LAYER A393 FABRIC MESH REINFORCEMENT IN TOP OF THE SLAB MIN COVER 55mm TO ANY CONCRETE FACE. PROPRIETARY SPACERS TI BE USED. MESH TO BE GRADE B500B OR B500C CONFORMING TO BS4483.
11. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS DOCUMENTATION AND SPECIFICATIONS RELATING TO THIS JOINTBOX TYPE CONSTRUCTION.
12. WORKMANSHIP, MATERIALS AND METHD OF CONSTRUCTION ARE TO COMPLY WITH ALL CURRENT RELEVANT CONTRACT DOCUMENTS EUROCODES AND CODES OF PRACTISE (RELEVANT TO CONSTRUCTION INDUSTRY) AND ACCEPTED CONSTRUCTION PRACTISE.
13. ALL EXISTING SERVICES POSITONS ARE TO BE VERIFIED ON SITE BY THE CONTRACTOR PRIOR TO STARTING THE WORKS. ALL ACCEPTED SAFE DIGGING PRACTISES AND SAFE METHODS OF WORKING ARE TO BE EMPLOYED DURING THE INSTALLATION OF THE JOINTBOX.
14. MODULAR JOINTBOX TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS GUIDANCE.

5.4: Modular box Diagrams

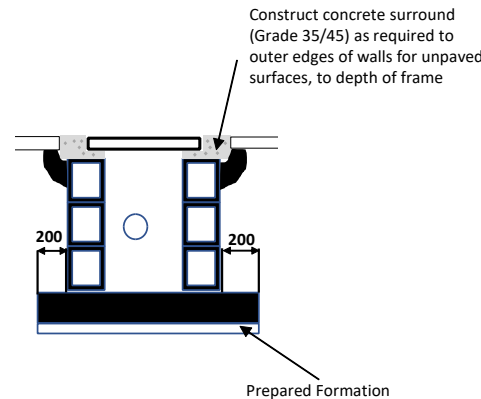
JMF 104



Plan



Section A- A



Section B- B

TOLERANCES

BEDDING MATERIAL ± 5

DUCT ENTRY POSITION $\pm 25\text{mm}$

WALL FLATNESS $\pm 11\text{mm}$

F & C ROCKING NIL

F & C SURROUND IN UNMADE $\pm 5\text{mm}$

F & C UNSUPPORTED OVER BOX $\pm 5\text{mm}$

VERTICALITY OF WALLS $\pm 15\text{mm}$

SLAB THICKNESS -10 TO + 150mm

SCHEDULE

ITEM	Description	No. OF		
		4B	4C	4D
1	CABLE BEARERS, WALL TYPE No.2	2	2	2
2	FRAME AND COVER FOOTWAY No.4C	1	1	1
3	PIN LOCKING CABLE BEARER	2	2	2
4	BRACKET CABLE BEARER No. 8	2	2	2

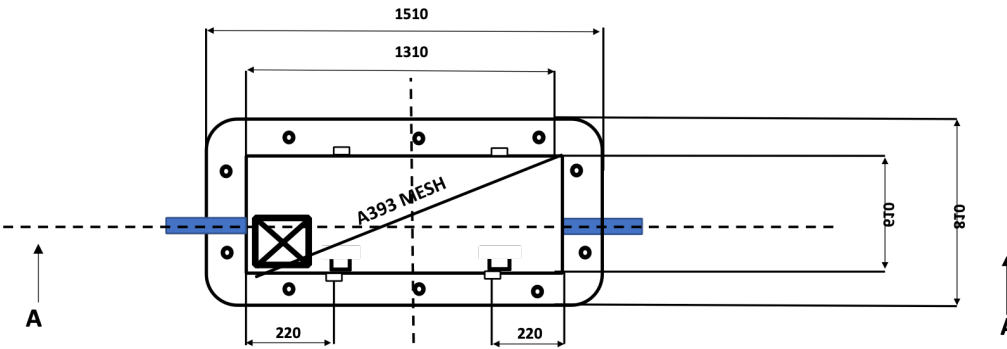
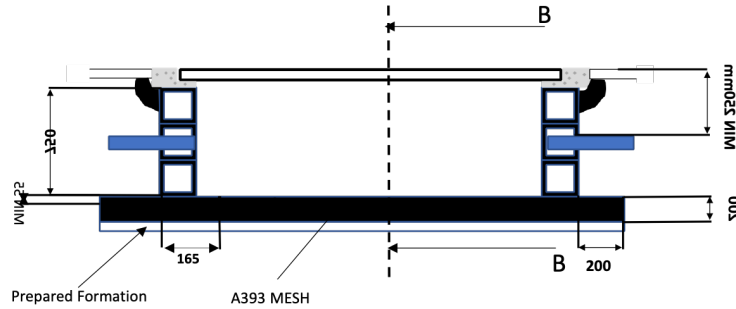
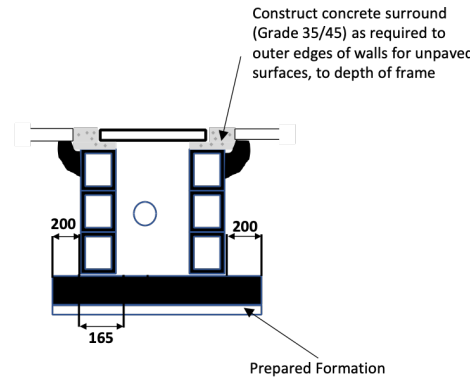
NOTES.

1. END DUCTS TO BE IN LINE.
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3. STEPS ARE TO BE PLACED IN ALL BOXES DEEPER THAN 700mm. PREFERRED STEPS ARE DROP-IN CORNER STEPS.
4. BEDDING MORTAR WILL BE USED TO ACHIEVE FINAL LEVEL OF FRAME AND COVER
5. SEE SPECIFICATION FOR STANDARD DIMENSIONS OF EACH MODULAR BOX.
6. IDEALLY THE TOP TWO RINGS SHOULD NOT BE CUT
7. BASE TO BE 200mm GRADE 35/45 CONCRETE WITH W/C RATIO

OF 0.4. MIN CEMENT CONTENT 380kg/m³ AGGREGATE MAX SIZE 20mm ALL IN ACCORDANCE WITH BS8500 (BS EN206)

8. THE SUMP IS TO BE CONSTRUCTED OUT OF A PIPE THAT IS A MIN OF 225mm IN DIAMETER OR THE CUBIS PREFABRICATED SUMP. THE SUMP WILL BE INSTALLED IN THE CORNER OF THE BOX, MIN 165mm AWAY FROM THE OUTERMOST WALLS IN ALL JMF 106 BOXES.
9. ALL WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH THE SPECIFICATION FOR HIGHWAY WORKS (SHW) AND ALL SUBSEQUENT AMENDMENTS.
10. 1 No. LAYER A393 FABRIC MESH REINFORCEMENT IN TOP OF THE SLAB MIN COVER 55mm TO ANY CONCRETE FACE. PROPRIETARY SPACERS TI BE USED. MESH TO BE GRADE B500B OR B500C CONFORMING TO BS4483.
11. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS DOCUMENTATION AND SPECIFICATIONS RELATING TO THIS JOINTBOX TYPE CONSTRUCTION.
12. WORKMANSHIP, MATERIALS AND METHD OF CONSTRUCTION ARE TO COMPLY WITH ALL CURRENT RELEVANT CONTRACT DOCUMENTS EUROCODES AND CODES OF PRACTISE (RELEVANT TO CONSTRUCTION INDUSTRY) AND ACCEPTED CONSTRUCTION PRACTISE.
13. ALL EXISTING SERVICES POSITONS ARE TO BE VERIFIED ON SITE BY THE CONTRACTOR PRIOR TO STARTING THE WORKS. ALL ACCEPTED SAFE DIGGING PRACTISES AND SAFE METHODS OF WORKING ARE TO BE EMPLOYED DURING THE INSTALLATION OF THE JOINTBOX.
14. MODULAR JOINTBOX TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS GUIDANCE.

1. END DUCTS TO BE IN LINE.
2. DUCT ENTRY POSITIONS SHOULD BE PREDRILLED BEFORE BOX IS INSTALLED. HOLES/ SAW CUTS CAN BE USED TO ACCOMODATE EXISITING DUCTS PROVIDED THEY ARE COMPLIANT WITH CLEARANCE AND SEPERATION STANDARDS. AVOID DRILLING BETWEEN TWO MODULAR SECTIONS, IF UNAVOIDABLE SEAL AREA WITH EXCESS RESIN BEDDING, RESIN MORTAR OR CONCRETE.
3. STEPS ARE TO BE PLACED IN ALL BOXES DEEPER THAN 700mm. PREFERRED STEPS ARE DROP-IN CORNER STEPS.
4. BEDDING MORTAR WILL BE USED TO ACHIEVE FINAL LEVEL OF FRAME AND COVER
5. SEE SPECIFICATION FOR STANDARD DIMENSIONS OF EACH MODULAR BOX.
6. IDEALLY THE TOP TWO RINGS SHOULD NOT BE CUT
7. BASE TO BE 200mm GRADE 35/45 CONCRETE WITH W/C RATIO OF 0.4. MIN CEMENT CONTENT 380kg/m³ AGGREGATE MAX SIZE 20mm ALL IN ACCORDANCE WITH BS8500 (BS EN206)
8. THE SUMP IS TO BE CONSTRUCTED OUT OF A PIPE THAT IS A MIN OF 225mm IN DIAMETER OR THE CUBIS PREFABRICATED SUMP. THE SUMP WILL BE INSTALLED IN THE CORNER OF THE BOX, MIN 165mm AWAY FROM THE OUTERMOST WALLS IN ALL JMF 106 BOXES.
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12. WORKMANSHIP, MATERIALS AND METHD OF CONSTRUCTION ARE TO COMPLY WITH ALL CURRENT RELEVANT CONTRACT DOCUMENTS EUROCODES AND CODES OF PRACTISE (RELEVANT TO CONSTRUCTION INDUSTRY) AND ACCEPTED CONSTRUCTION PRACTISE.
13. ALL EXISTING SERVICES POSITONS ARE TO BE VERIFIED ON SITE BY THE CONTRACTOR PRIOR TO STARTING THE WORKS. ALL ACCEPTED SAFE DIGGING PRACTISES AND SAFE METHODS OF WORKING ARE TO BE EMPLOYED DURING THE INSTALLATION OF THE JOINTBOX.
14. MODULAR JOINTBOX TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS GUIDANCE.

**Plan****Section A- A****Section B- B****TOLERANCES**BEDDING MATERIAL ± 5 DUCT ENTRY POSITION ± 25 mmWALL FLATNESS ± 11 mm

F & C ROCKING NIL

F & C SURROUND IN UNMADE ± 5 mmF & C UNSUPPORTED OVER BOX ± 5 mmVERTICALITY OF WALLS ± 15 mm

SLAB THICKNESS -10 TO + 150mm

SCHEDULE

ITEM	Description	No. OF				
		6B	6C	6D	6E	6F
1	CABLE BEARERS, WALL TYPE No. 2	2	0	0	0	0
	CABL BEARERS WALL TYPE, No. 3	0	2	2	2	2
2	FRAME AND COVER FOOTWAY No.6C	1	1	1	1	1
3	PIN LOCKING CABLE BEARER	2	2	2	2	2
4	BRACKET CABLE BEARER No. 8	2	2	2	2	2
5	PREFABRICATED SUMP (Cubis)	1	1	1	1	1

6: REFERENCES

This reference list is not exhaustive and is issued here for guidance only.

- Cubis Product Brochures & Installation Procedures
- Installation Guide – Telecoms
- Specification for Installation of Stakkabox JMF – Modular Access Chambers
- New Roads and Street Work Act 1991 (NRSWA)
- Health and Safety at Work Act 1974
- Safety at Street Works – a Code of Practice
- Road Traffic Regulation (Northern Ireland) Order 1997
- Management of Health and Safety at Work Regulations 1999
- HSG47 – Avoiding danger from Underground Services
- HSE – Avoiding Danger from Overhead Power Lines Guidance note GS6 (4th Edition)
- Personal Protective Equipment at Work Regulations 1992 - (Amendment - from 6th April 2022)
- Specification for the Reinstatement of Openings in Highways – 4th Edition May 2020
- Manual Handling Operations Regulations 1992
- The Electronic Communications Code, Schedule 2 to the Telecommunications Act 1984 as amended by the Schedule 3 to the Communications Act 2003, (“the Telecoms Code”)
- Northern Ireland Road Authority & Utility Committees – Code of Practice

End of Document