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screeded floor systems

Cablelink Plus Flush System

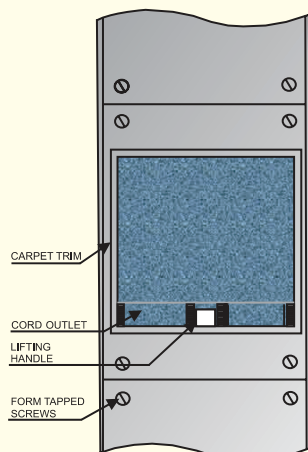
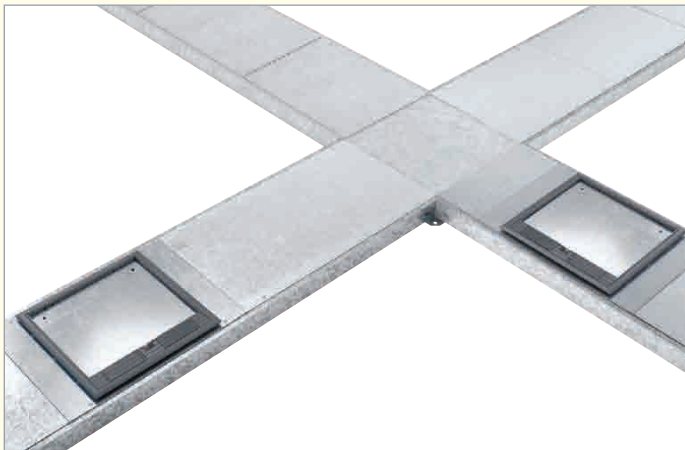
Cablelink Plus Flush System is designed to provide power and data distribution highways in screeded floors.

The robust system offers a high degree of flexibility for applications requiring frequent maintenance or frequent layout changes.

Simple and intuitive to install, the system comprises of four basic components – Trunking, Service Outlet Boxes, Junction Boxes and Vertical Access Boxes.

Feature Benefits

- Tested to pr EN50085-2-2 to accept 5000N load
- Designed to support Cat 6 structured cabling systems
- Boxes simply “drop in” for fast and simple installation
- Removable trunking section covers provide easy access
- Floorboxes are IP2X rated in accordance with BS EN50085-1
- Choice of 2 or 3 compartments
- Self Closing lid in accordance with draft IEC 61534-22
- Wide range of power and data accessories available to meet all requirements
- Quality, reliability and safety come as standard
- Provision of RCD protection supports compliance with the 17th Edition Wiring Regulations
- 5 year guarantee



Cablelink Plus Trunking System

Standard widths for flush floor trunking are 200mm, 225mm, 300mm and 405mm. The slim trunking is available in a height of 28mm (200mm, 225mm and 300mm widths only), with the standard heights available as 60mm (300mm width only) and 65mm (300mm and 405mm widths) The trunking base is supplied in 2440mm lengths with six modular covers of 406mm length.

Standard Trunking – 65mm Depth

The Cablelink Plus Flush Trunking is equipped with removable covers providing access along the entire length of the trunking. Drop-in service outlet boxes can be installed along the length of the trunking by removing the covers and removable partitions. Trunking is laid on the floor and screeding is finished flush with the cover.

The service outlet boxes are manufactured with 32.5mm space below the accessory plate in order that the cable capacity is maintained along the trunking length. This is for the 65mm deep trunking. For the 60mm deep then the space below is 28.5mm.

Universal Junction Boxes are equipped with removable side blanks that allow it to be used for all applications such as Tee, Cross, Elbows etc.

Note

- Avoid service outlet boxes within the header run to maintain cable capacity in the trunking
- The minimum screed requirement is 70mm

28mm Depth Trunking

The 28mm depth Trunking is used for screeds as low as 38mm.

During installation of the trunking, the floor slab has to be cut away to accommodate the extra space necessary for the service outlet box. Alternatively, polystyrene blocks could be used while the slab is cast to provide a cavity.

Note

- The 28mm Trunking lacks the flexibility that the Cablelink Plus Flush System can provide
- The position of service outlet box is fixed

RAL Colours

Grey (GRY) = RAL 7011

Light Grey (LGY) = RAL 7046

Top Tips

- It is recommended to use carpet tiles with flush floor trunking
- Ceramic Tiles are not recommended to be laid over flush floor, as the tiles would crack when laid over the flush floor trunking
- 28mm depth trunking is recommended only when site considerations require accessible trunking
- The minimum screed requirement for this range is 38mm

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Flush Floor Trunking Data

Length of Body	2440mm.
Length of Cover	406mm (6 per trunking).
Body Thickness	1.2mm.
Cover Thickness	2.5mm standard.
Materials	Pre-galvanized sheet steel to BS EN10327: 2004.
Width	Refer to component ranges.
Depth	Standard is 65mm with 60mm option. Slim Trunking is 28mm.

Cable capacity

Standards

The Cablelink Plus Flush System complies with the requirements of the latest edition of the IEE Wiring Regulations (BS 7671) and to BS EN50085 Part 1 and draft EN50085 Part 2-2. Additionally the floorboxes also comply with IEC 60670 Parts 1 and 23.

The table below shows the size required to be cut into carpet for Cablelink Plus Flush Floorbox installation.

Where A is from left to right and B is from back to front.

	265x265mm	
	A	B
Carpet Cut out	265mm	265mm

The table below shows the size required to be cut into carpet for Cablelink Plus Flush Floorbox installation.

Where A is from left to right and B is from back to front.

	265x265mm	
	A	B
Carpet In fill	251mm	219mm

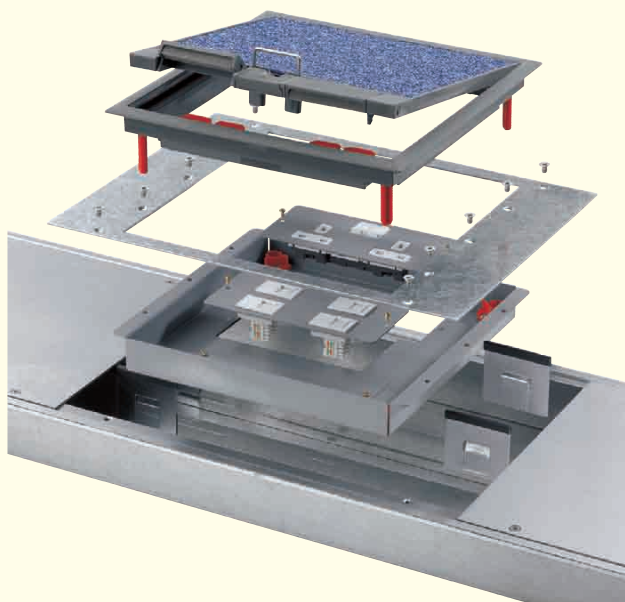
Table A - Cable Factors		
Cable Type	CSA	Cable Factor
Power Cables		
PVC Stranded	1.5mm ²	8.6
	2.5mm ²	12.6
	4mm ²	16.6
	6mm ²	21.2
	10mm ²	35.3
	16mm ²	47.8
Twin & Earth	2.5mm ²	86
	4mm ²	99
	6mm ²	148
Data Cables		
Cat 5E UTP	5.5mm dia	30.2
Cat 5E STP	6.0mm dia	36
Cat 6 UTP	6.5mm dia	42.2
Cat 6 STP	7.0mm dia	49

TABLE B – Flush Trunking Cabling Capacity					
Size (mm)	Compartment Size (mm)	Capacity 100%	Capacity (45% fill)	Capacity with Box (100%)	Capacity with Box (45% fill)
200x28	100x28 (2 comp)	2381	1071	2381	1071
225x28	80x28 (centre comp)	1944	875	1944	875
	70x28 (outer comp)	1701	765	1701	765
300x28	80x28 (centre comp)	1944	875	1944	875
	110x28 (outer comp)	2624	1181	2624	1181
300x60	80x60 (centre comp)	4504	2027	1784	803
	110x60 (outer comp)	6052	2724	2839	1278
300x65	80x65 (centre comp)	4904	2207	2184	983
	110x65 (outer comp)	6590	2965	3377	1520
405x65	150x65 (2 comp)	9072	4083	4499	2025
	80x65 (centre comp)	4904	2207	2184	983
405x65	162x65 (outer comp)	9808	4414	6595	2968
	135x65 (equal comp)	8128	3658	–	–

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Cablelink Plus Flush – Trunking components

- Trunking
- Couplers
- Service Boxes
- Universal Junction Boxes
- End Caps
- Vertical Access Boxes
- Reducers

Trunking

The trunking body is manufactured from 1.2mm pre-galvanised sheet steel to BS EN10327: 2004 while all covers are 2.5mm thick.

Each length of trunking is supplied with two couplers and six modular covers that enable easy access. Partitions in the trunking are removable to facilitate installation of service outlet boxes.

Plastic gaskets are used on partitions to cushion the covers, thus reducing transmission of noise when covers are walked on.

Trunking Reducer

Enables trunking to be reduced to a narrower width, i.e. from 405mm to 300mm or from 300mm to 225mm.

Service Outlet Boxes

Cablelink Plus Flush Service Outlet Boxes can be installed in the position of any cover. Manufactured from UL94 V2 rated nylon and feature a 2.5mm sheet steel load plate. The lid has an 8mm recess for carpet finishes.

The lids are fully reversible without the need to remove the frame thereby allowing cable exit in both directions (alternatively the frame and lid assembly can be removed and rotated through 90° if desired). Accessory plates are manufactured from pre-galvanized sheet steel and are powder coated. The frame features a generous trim that covers unsightly carpet edges.

The ratchet system allows for locking the frame for different carpet levels, self-adjusting to any normal floor finish thickness. The frame is secured by hand operated ratchets which provide for quick and efficient installation and removal without the need for tools.

Cables are guided by cable retainers through generous cable outlets which open and lock automatically into position when cables are present. The cable retainers are detachable and can be mounted on either side of the frame.

The accessory mounting plate has a staggered arrangement to provide plug strain relief clearance.

All accessory plates are inter-changeable allowing any combinations to be prepared. Blank plates are also available for use when precise requirements are not available or future requirements cannot be determined in advance.

Concealed Service Outlet Boxes Adapter

These service outlet boxes are used in conjunction with 28mm depth trunking. They are semi-recessed into the slab during installation and then screeded to render the box flush with the floor. As a result, the boxes cannot be shifted after installation. However, as the trunking is flush with the finished floor, cables can be accessed at any point in time.

Universal Junction Box

Removable side plates facilitate adapting the unit for Elbow, Tee and Cross application.

Junction Box Adaptor

Junction boxes act as an interface in cases where the trunking system needs to combine with the underfloor metal ducting system or vice versa.

Coupler

Couplers are used to join two lengths of trunking. They also facilitate earth continuity. Couplers are standard for all trunking sizes.

Vertical Access Box

Vertical Access Boxes are normally recessed in the wall. Appropriate knockouts / openings are provided on top of the vertical access box through which cables are routed into the trunking.

Fixing Bracket

Fixing Brackets are used to secure the trunking body to the screed / slab. These can also serve the purpose of couplers.

End Cap

End caps are used to cover the ends of the trunking. Their sizes differ according to the size of the trunking.

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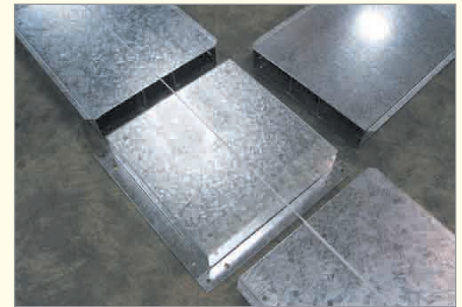
Installation Guidelines

- The structural floor slabs on which the trunking is to be laid, must be reasonably level and smooth. Humps and un-even structural floors must be hacked to ensure accurate levelling of the flush-floor system.
- The location where the trunking is to be laid should be marked out. The levelling wires are to be strung across, parallel to a known base line of the location for the system.
- It is recommended that a layer of green screed be laid on the structural slab to ensure the trunking is fully in contact with the structural floor by means of using the quick fixing brackets. The covers should be removed and fixing brackets should be fastened to the exterior of the trunking.
- Lay the straight feeder trunking with the junction boxes first, followed by the distribution trunking. When set in position and levelled, they should be secured to the structural floor by means of using the floor fixing brackets. The covers should be removed and fixing brackets should be fastened to the exterior of the trunking.
- Joints should be sealed with metal-to-metal sealant to prevent screed seepage into the system. The trunking lids should be covered with PVC film before screeding commences to prevent it from being stained.
- While screeding, care should be taken to finish the screed beneath the external flange. This will need to be ensured in order to prevent screed cracking when covers are lifted off for laying cables.
- When the system is screeded, service outlet boxes can be installed on any location of the trunking by removing any of the covers and changing the segmented partitions to those suitable. All lids and service outlet covers should be properly aligned on the trunking and screws tightened to prevent transmission of noise and ingress of dust.
- Inspection and cleaning have to be carried out when the screed is thoroughly cured. Water in the system has to be pumped out with all the covers opened. The trunking system must be clean and dry before the covers can be closed, this is to prevent condensation and oxidation of the pre-galvanising coating on the steel. Cold galvanised paint should be used for touch up if necessary.
- Mark the trunking base where the service outlet boxes are to be installed by removing the covers before laying the cables.
- When laying the cables, extra cable should be provided at these locations for the termination of the accessories. The concealed service outlet modules can be installed at the final stage of the installation.
- All covers must be properly tightened. It is a good practice to check that the covers are sufficiently tight during routine maintenance.

Note: the use of green screed/ribbon screed is recommended to prevent plate deflection.



1. Mark the start point from the installation layout plan.



2. Lay out all the main and branch trunking along with junction boxes.



3. Join two trunking bases using fixing brackets and then fasten it to the slab. Ensure trunking alignments are as per guideline.



4. The side plates are to be removed and the trunkings are to be fastened with the junction boxes using self tapping screws.

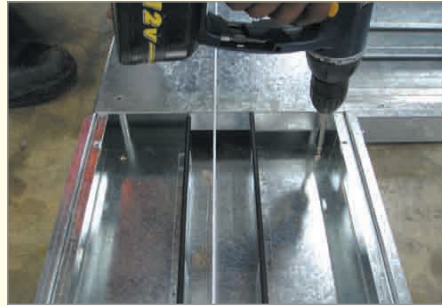
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5. Remove all the necessary plates when needed for either branching off angle tee or crossing over between the trunking.



9. Ensure both sides are aligned and secured to prevent any gaps.



13. Remove the long partition within the section of the cover.



6. Connect the junction unit with the trunking.



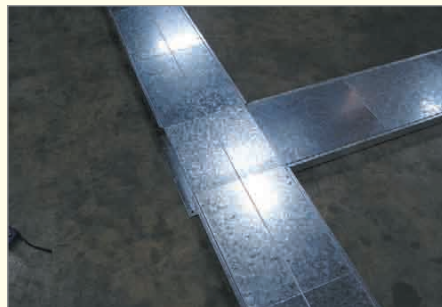
10. Replace all covers and seal all the gaps on top using adhesive tapes before screeding.



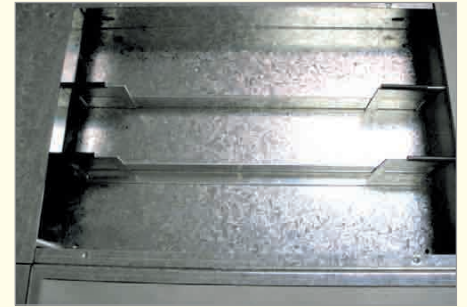
14. Replace the long partitions with the short ones provided with the service outlet box.



7. Remove one cover if trunking is covered and on the extreme end nearest to the junction unit of the trunking.



11. Final check on alignment before screeding. After screeding peel off the adhesive tapes around the covers.



15. Place two pieces of short partitions on both ends for every partition.



8. Fasten the connection between the trunking and the junction unit by self tapping screws.



12. Remove the covers of branch trunking where service outlet boxes are to be placed.



16. Replace the cover space with the service outlet box. Secure the service unit the same way as the covers using the similar screws.

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17. Complete installation and fit carpet. The frame and lid assembly can now be fitted. Ensure the ratchet release is set to the lock position and align these with the ratchets in the accessory tray. Apply gentle pressure until the frame is securely seated in the box and against the finished floor e.g. carpet or vinyl.



18. If the frame and lid assembly requires to be removed or rotated to ease cable egress then the ratchet releases should be rotated to the unlock position and the frame can be lifted out of the floorbox. The assembly can then be rotated and fixed as before.

Load Testing

Load Testing of Flush Trunking to draft pr EN50085 Part 2-2 (Clauses 10.5.103 and 10.5.104).

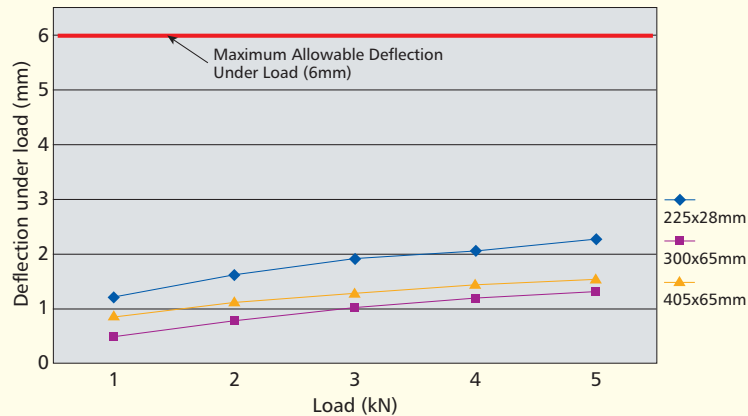
The trunking has been tested to and complies with the loading requirements of draft pr EN50085 Part 2-2 (Cable trunking systems and cable ducting systems for electrical installations Part 2-2: Particular requirements for cable trunking systems and cable ducting systems intended for mounting underfloor, flushfloor, or onfloor).

There are two loading criteria for the trunking system – one with point load to replicate stiletto heels passing over and one with a large plate to replicate the likes of fork trucks and heavier larger loads. For both these loading criteria the maximum allowable deflection under load is 6mm and the maximum permanent deflection after the load has been removed is 3.0mm.

The loading graph shows that the maximum point loading classification achieved is 1.5kN and the maximum large plate loading classification achieved is 5kN.

The permanent deflection graph shows the permanent deflection from the point loading at 1.5kN is well within the maximum allowable deflection of 3.0mm range.

Flush Trunking Deflection Under Load – Large Plate



The permanent deflection graph shows the permanent deflection from the point loading at 1.5kN is well within the maximum allowable deflection of 3.0mm.

Flush Trunking Permanent Deflection After Removal of Load – Point Load

