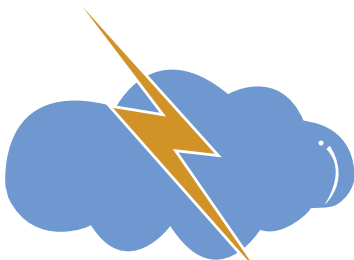
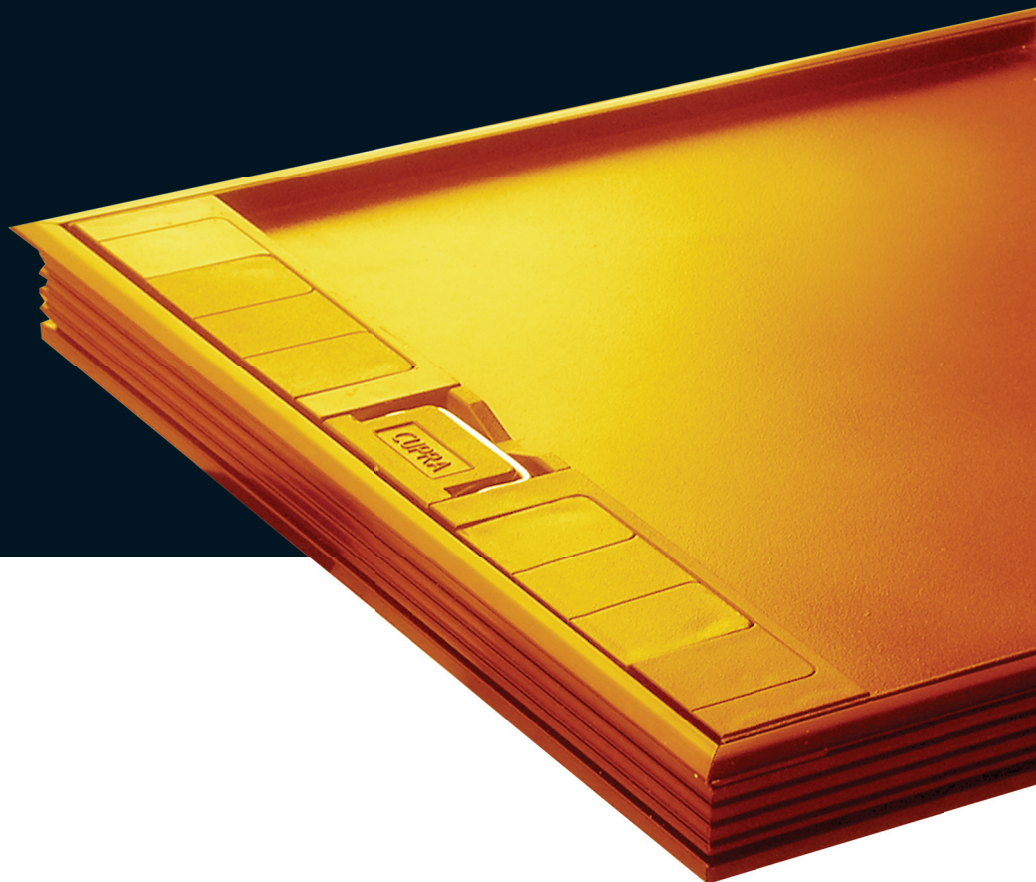




Flurplan

Floor Distribution Systems



CUPRA
Customercentric®



Cupra

The name is thought to come from the Sabine word cuprum, which is usually glossed as “good”. This word is likely derived from cup, “desire” (related to the Latin root of the name Cupid), making Her “good” in the sense that She is “the Sought After”, or “the Desired One”, implying One who fulfills wishes and answers prayers, or who is sought out because of being benevolent and powerful.

The Brand is derived from Cuprous that means ‘of Copper’. As our products are electrically orientated, it made sense to aptly call our brand Cupra.

At Cupra, the customer is at the heart of all that we do. We believe in our philosophy of providing the best products and services to our customers. By selectively picking our distributors, we ensure that our partners are best equipped to provide an exceptional level of service to our customers.

The Core of Cupra

We believe in the fact that we are accountable to our stakeholders. Quality products and services are the expectations from Cupra. All personnel at Cupra are experienced and experts at their respective jobs. Cupra employees are individually qualified and, as a team, we produce the world’s most respected and preferred products. We take responsibility for our decisions at the individual and company levels.

The core values:-

Caring, Health and Safety

The industry that Cupra is in involves interaction with electrical systems. The end customer is subject to shock, and other risks, if the products are not of a good quality. At Cupra, we care for our customers. The products are manufactured in an environment where Health and Safety norms are stressed. This ensures that products conform to the highest standards of HS&E.

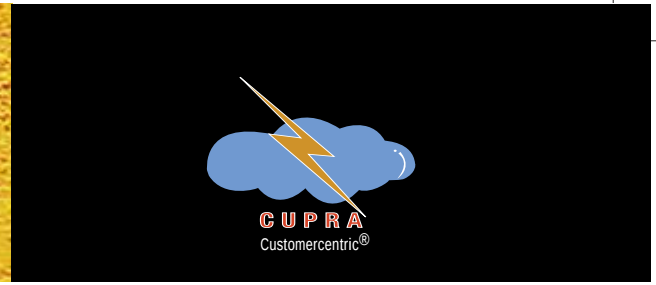
Continuous Improvement, continued successes

We believe that we will get better by the day. This will apply to products, services, processes, teamwork and every aspect that we deal with at work. Continuous improvement is applicable in every thing that we do, which will ensure world leadership position to Cupra and its products.



“ In Roman/Greek Mythology, Cupra is considered to be a form of the Great Goddess of the Etruscans. She was considered one of the Nine Great Gods who had the ability to throw thunderbolts (called by the Romans Novensiles), and was part of a triad with Tinia (Jupiter) and Menrfa (Minerva), who were said to have temples in every Etruscan city. Her origins are said to be Sabine, and She was worshipped among the Etruscans, Piceni, and the Umbrians (all located in modern central Italy). ”





Global Footprints & Team Work

With a presence in virtually every continent across the globe, Cupra products are serviced by a superior supply chain. This has been made possible by exceptional team work and a determination to achieve a market leadership position.

An Eye For Detail

Trained, carefully chosen, right people are the key to the success of an organization. Correct and continuous training ensures an eye for detail that ultimately translates into effectiveness and efficiency. The customer is therefore assured of the right products and services, at the best price levels.



“ Cupra had its origins in the United Kingdom as a small and medium business unit, before merging with LCC, France. The merger has created a brand with footprints across the world, comprising products to varying standards and concepts. The LCC Group is now known as Cupra International.



The Cupra Vision

We will work towards building a safer tomorrow for our future generations. We will encourage the use of non-polluting, bio-degradable or recyclable materials to produce our products thereby ensuring that the environment is safe for future generations.

It is our vision to ensure that we build long term partnerships with our stakeholders that are mutually fulfilling and profitable. By imbibing our core values in everything that we do, we will ensure that we remain customercentric.

It is our endeavour to expand the product range from Cupra to encompass the entire gamut of products within the electrical industry.

Cupra Today

The Cupra range has grown to include various metal components used in the Electrical Industry, ranging from Cable Glands and Gland Kits, Cable Lugs and Terminations. Additionally, the brand has diversified into GI Back Boxes, Channel Supports, cable management, hand dryers, and a host of other electrical accessories that go into buildings.

Cupra is on the verge of tremendous growth, a growth that has the potential to spiral the brand to new heights and successes. Come, be part of the Cupra family, and join us in our march towards greater success and glory.

Customercentric®





Introduction

Building technology and architecture has changed vastly that has resulted in the increased use of glass facades in buildings. This change, in combination with the open plan office concept has resulted in the application of floor distribution systems to ensure access of power and telecom services to 'islands'.

Floor Distribution Systems or FDS as they are called, are probably the most abused systems in any given setting. As these are laid out on the floor, the trunkings and boxes come in direct contact with heavy static and dynamic loads that could render significant stress on the systems.

It is therefore important to ensure that the FDS is properly designed to take the right loads, for the right application.

Various parameters define the selection and application of floor distribution systems. These are as follows :-

Screed Depth and Methodology of Implementation

A lesser screed depth could dictate the usage of shallow boxes and ductings/trunkings. Most systems are adapted to be fixed within 80mm screeds. However, pre-cast concrete slabs will result in the usage of poke-through systems, unless provisions are made for fixing floor ducts/trunkings within the slab, at the time of pre-cast manufacture.



Budget provisions for floor systems

If an inscreed duct system is used, the costs of the FDS could be lowered. Further cost savings may be achieved by using uPVC conduits to feed the boxes within screeds. As flushfloor trunkings utilize a lot of steel, the costs could be high for the same layout. When cavity floor or false floor systems are used, the costs of the Raised Floor Trunking System fall between that of the screeded and the flushfloor system. The costs of the raised flooring could offset the potential savings achieved while installing a raised floor trunking system.

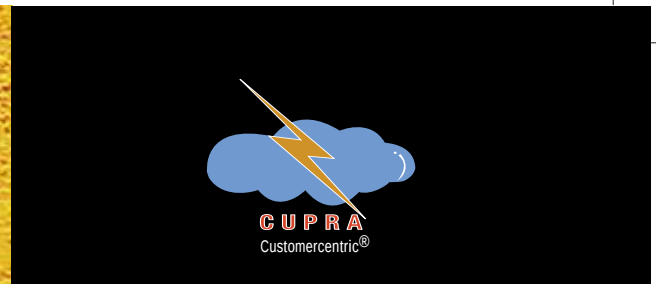
However, the potential benefit of the raised floor trunking system should not be ignored, as there is tremendous flexibility that can be achieved in a raised flooring, which cannot be duplicated in other systems.

Flexibility

The three systems are applied in three different circumstances. An inscreed system is applied in projects where the final position of different service points is known in advance. This implies that the project design must be detailed to such an extent that the end user / occupant is fully aware of the usage and implementation of the points that have been designed. If this is not taken into consideration, the inscreed system could end up being under utilized, resulting in ugly extension connectors stretching across floors.



A Flushfloor trunking system is used in projects where the final positions of the floor box are approximately known, with a level of flexibility being offered to the end user for repositioning the floor outlet. The reorganization is limited to



a few meters, with the option to move the boxes along the run of the trunking. As long as trunkings are fixed, the boxes can be relocated. Lateral movement is however, not feasible in a flushfloor trunking system.

Additionally the flexibility of the raised floor trunking system is through 360 degrees on the raised floor plane. The boxes are independent of the trunking, and can be repositioned on any point within the raised flooring, as long as it is serviced and connected to the trunking through flexible conduits.

Impinged Loads

A flushfloor trunking system has a lesser loading capability than an inscreed system, as the entire trunking is fixed flush with the finished floor. As loads constantly impinge on the floor trunking, the load bearing capability of the system is reduced.

In a raised floor trunking system the boxes are the only load carrying components within the floor system. The boxes are suspended within the raised flooring, and are capable of carrying dynamic loads normally seen within floor spaces.

The average design loads on floor distribution system are as shown below. As the traffic increases, the load expected to impinge on the floor boxes could increase, and increase the stress on the floor boxes.

The system chosen should be capable of taking the following loads per square meter.

Commercial office	- 3kN
Shopping mall	- 6kN
Exhibition Halls	- 6kN
Conference rooms / Hotels	- 3kN
Corridors	- 5kN

Standards

The following standards are applicable for the floor distribution systems, including the ducts, and the service/junction boxes where applicable.

BS EN 61534- 22 : 2014	Powertrack Systems, particular requirements for power track Systems intended for onfloor or underfloor installations
BS EN 60670- 23:2008	Boxes and enclosures for Electrical Accessories for household and similar fixed electrical .installations; particular requirements for floor boxes and enclosures
BS 4678-2:1973	Thickness of ducts and trunkings
BS EN 50085-2-2:2008	Construction of the duct system, particular requirements for cable trunking systems intended for mounting within screeded floors, flushfloor or under raised floors





Floor Box Density

Different office applications call for a different density of floor boxes on the floor layout. The following data gives an indication of possible density within floor spaces.

1 floor box every 4m ² (2 x 2)	Dense offices like Call Centers / Graphic designers
1 floor box every 6m ² (2 x 3)	Commercial office space
1 floor box every 8m ² (2 x 4)	Small cabins
1 floor box every 10m ² (2 x 5)	Large office cabins and Reception area, conference halls

Combi Layouts

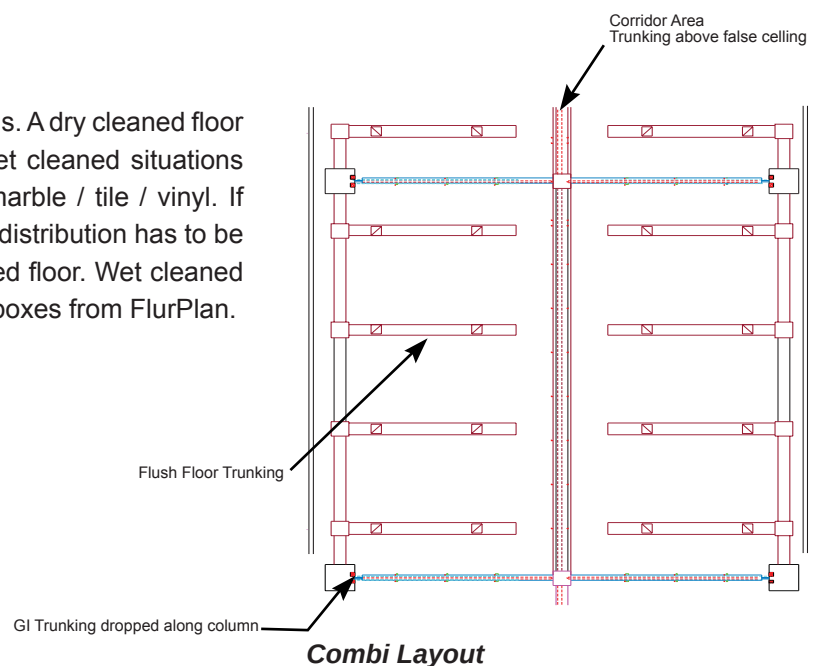
Different combinations of systems can be used to achieve greater flexibility and overcome possible obstacles that could occur while wiring up layouts. Combination layouts include the combination of trunkings above false ceilings, dropped down through partition walls and wall trunkings into floor layouts, inscreed-flushfloor combinations to take care of changed floor finishes such as marble/granite and carpets across the same floor layout.

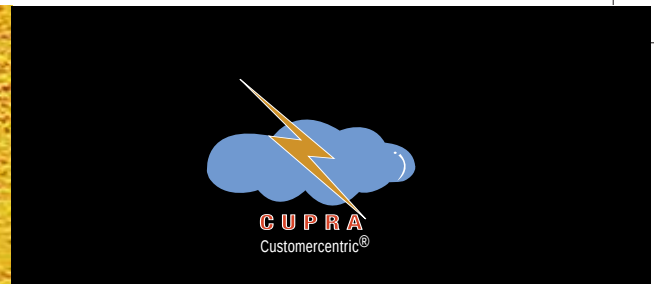
Dynamic Offices and relocation

An increasingly dynamic office with office locations being changed frequently should have the capability to reposition the floor system as quickly as possible within the shortest possible time. The raised floor trunking system is the most flexible, and the easiest to relocate within a given layout. The downtime while relocating a flexible system is lesser. The choice of the floor system should take these factors into consideration.

Cleaning and Applications

Floors are cleaned using dry and wet methods. A dry cleaned floor employs carpet/Parquet/wood flooring. If wet cleaned situations are called for, the floor finish is generally marble / tile / vinyl. If the floor finish is to be dry cleaned, the floor distribution has to be inscreed (Tetrus/Alutrim) or flush floor / raised floor. Wet cleaned floors use the Deep range of Inscreed floor boxes from FlurPlan.





Cable Capacity and Product Selection

In all installations it is imperative to ensure that the right duct is selected in line with the best practices and conforming to standards. In order to do this, a good starting point would be by identifying the cable capacity available within ducts that can be used to thread wires.

The tables alongside detail the available cable capacity seen within ducts and trunkings. The factors have been calculated using BS 7671 IEE Wiring Regulations that state that the maximum fill capacity has to be 45% of the total capacity of the duct. On this basis, the cable capacity is calculated.

The dimensions of the flushfloor trunkings are based on standard configuration.

Once the fill factors of the ducts/trunkings are known, the number of wires that can be filled within the available area is calculated based on the fill factor of the wires. A sample calculation is shown below.

Let us consider that a 225 x 25mm 3 compartment duct is being used. Assuming equidistant partitions, the available capacity is 844mm² per compartment. If 2.5mm² wires are being used, the ducting can enclose 67 wires within each of its ducts.

Conversely, if 80 wires are to be threaded, the total capacity of the wires is 960mm². The total capacity needed as per regulations is 2134mm². The client has to use 300x65mm flushfloor trunking, or 2 compartment 225x38mm inscreed ducts, or employ alternate re-routing methods to wire the floor distribution system.

Dimension	(Available Capacity (mm ²			
	Compartment 1	Compartment 2	Compartment 3	Compartment 4
50 x 25	563			
75 x 25	844			
150 x 25	1688	844		
225 x 25		1266	844	
275 x 25		1547	1031	
350 x 25		1969	1313	984
425 x 25			1594	1195
50 x 38	855			
75 x 38	1283			
100 x 38	1710			
150 x 38	2565	1283		
225 x 38		1924	1283	
275 x 38		2351	1568	
300 x 38		2565	1710	
350 x 38		2993	1995	1496
425 x 38			2423	1817
450 x 38			2565	1924

No. of Compartments	Flush Floor Trunking Sizes				
	Compartment Dimension		150 x 65	300 x 65	405 x 65
1 Compartment	150	x 65	4388		
2 Compartment	75	x 65	2194		
2 compartment	150	x 65		4388	
3 compartment	110	x 65		3218	
	80	x 65		2340	
2 compartment	202.5	x 65			5923
3 compartment	150	x 65			4388
	105	x 65			3071

Stranded conductor *	Conductor Cross Section	Overall Diameter	Fill Factor
	*1.5	3.20	8
	1.5	3.30	8.6
	*2.5	3.90	12
	2.5	4.00	12.6
	4	4.60	16.6
	6	5.20	21.2
	10	6.70	35.3
	16	7.80	47.8
	25	9.70	73.9
	35	10.90	93.4



Product Range - Floor Boxes

The Floor boxes from Cupra® can be broadly categorized under three headings.

TETRUS

The TETRUS range of floor boxes feature multisided floor boxes. The box frame and trap is manufactured from fire-retardant hardened ROHS compliant engineering plastic.

The TETRUS ranges of boxes are multidirectional and allow cable exit in all four directions. With offices being dynamic, it is essential for the end user to have flexibility after handover as well. This can be achieved very easily without a screw driver, or the need to call a technician. The easy snap fit design enables the end user to achieve this transition from one side to another with ease.

The TETRUS range grommets are removable and can be reversed when not in use. This will prevent the entry of vermin and dust into the box.

The grommets are single units that endear pleasing aesthetics to the floor box.

The retractable handles of TETRUS ensure that the box handles fall by gravity when released. This ensures that they do not become a hazard when lifted to raise the trap.

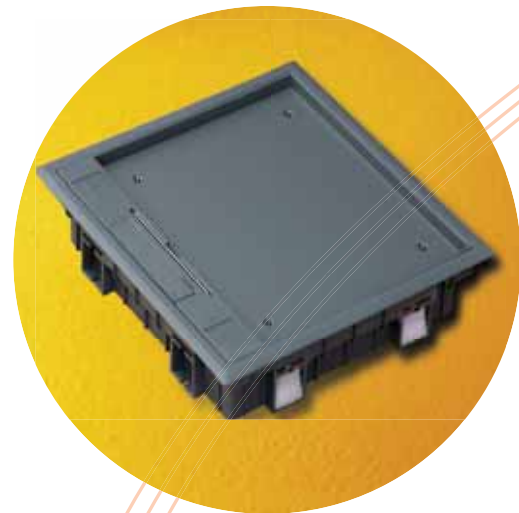
The TETRUS traps can be placed in the open position in order to carry out extensive maintenance work. The capability to place the box in the open position prevents the possibility of damage and injury to fingers when the box is subject to maintenance.

The TETRUS range is available in inscreed, flushfloor and raised floor boxes. The design is the same across the different ranges, when applied across either of the three floor distribution schemes.

ALUTRIM

The Alutrim Construction is a durable and premium range from the Flurplan offering. The key features of the Alutrim range are as follows:-

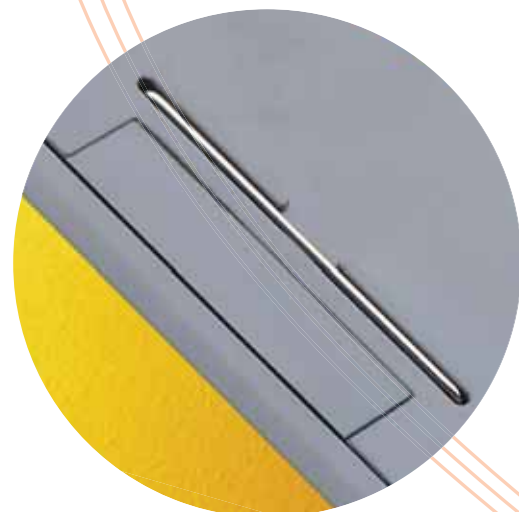
The frame is manufactured from extruded aluminium to form a rigid structure. The system construction ensures consistency in



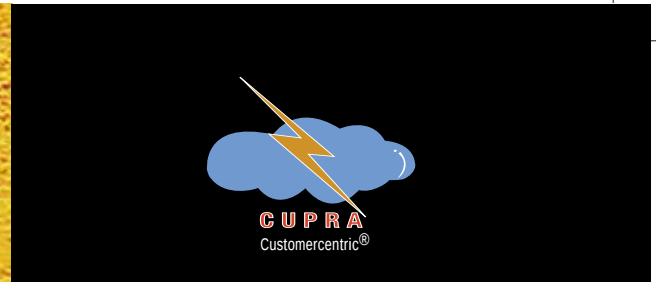
The Tetrus Frame



Customercentric



Retractable Lifting Handles & Grommet



aesthetics, durability and rigidity of the finished product.

Slot windows on the inner side of the frame allow the trap to slide along the frame thereby allowing a high degree of flexibility when the box trap is to be kept open for service and maintenance. Additionally, as the slots are present on all sides, the frame can be relocated in all four directions like the TETRUS box.

Sponge filled grommets enable cable exit from the box without damage. The grommets are self locking, thereby preventing any chance of accidental cutting/damage of cables on impact, in a dynamic environment.

The Alutrim range can take significant dynamic and static loads.

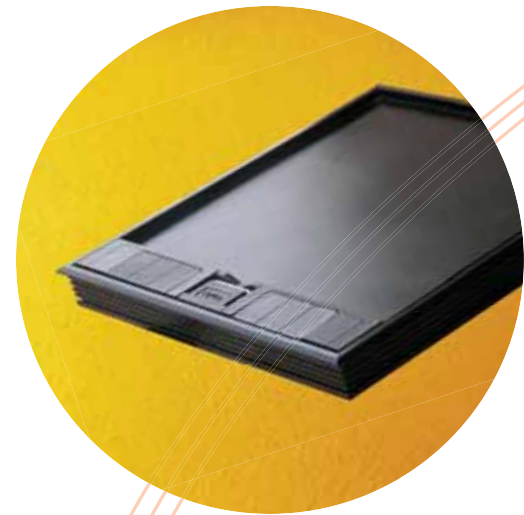
DEEP

The DEEP range of boxes from Cupra® is manufactured to accommodate special tile finishes such as granite and marble. Marble and granite are fragile at lesser thicknesses. Normally, at thicknesses of about 20mm, these special finishes retain their integrity and shape, and do not crack on impact.

In high quality and high finish areas it is therefore important to ensure that the recess in floor boxes is ready to take such finishes under normal load conditions.

As such finishes are normally used in in-screed applications, the DEEP range is available only in the in-screed version.

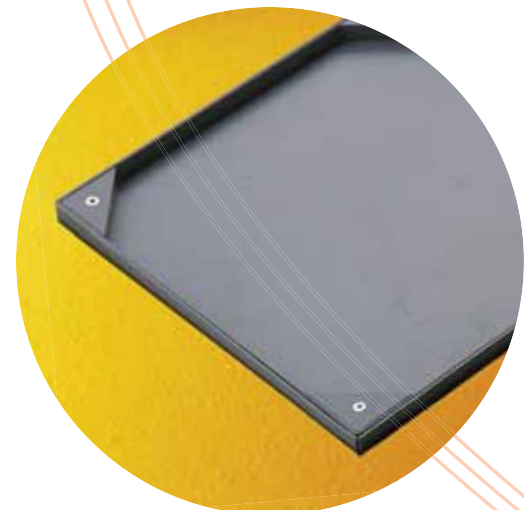
IP rated junction boxes are available as a standard offering. The floor Boxes are rated to IP 55 in closed conditions.



Alutrim

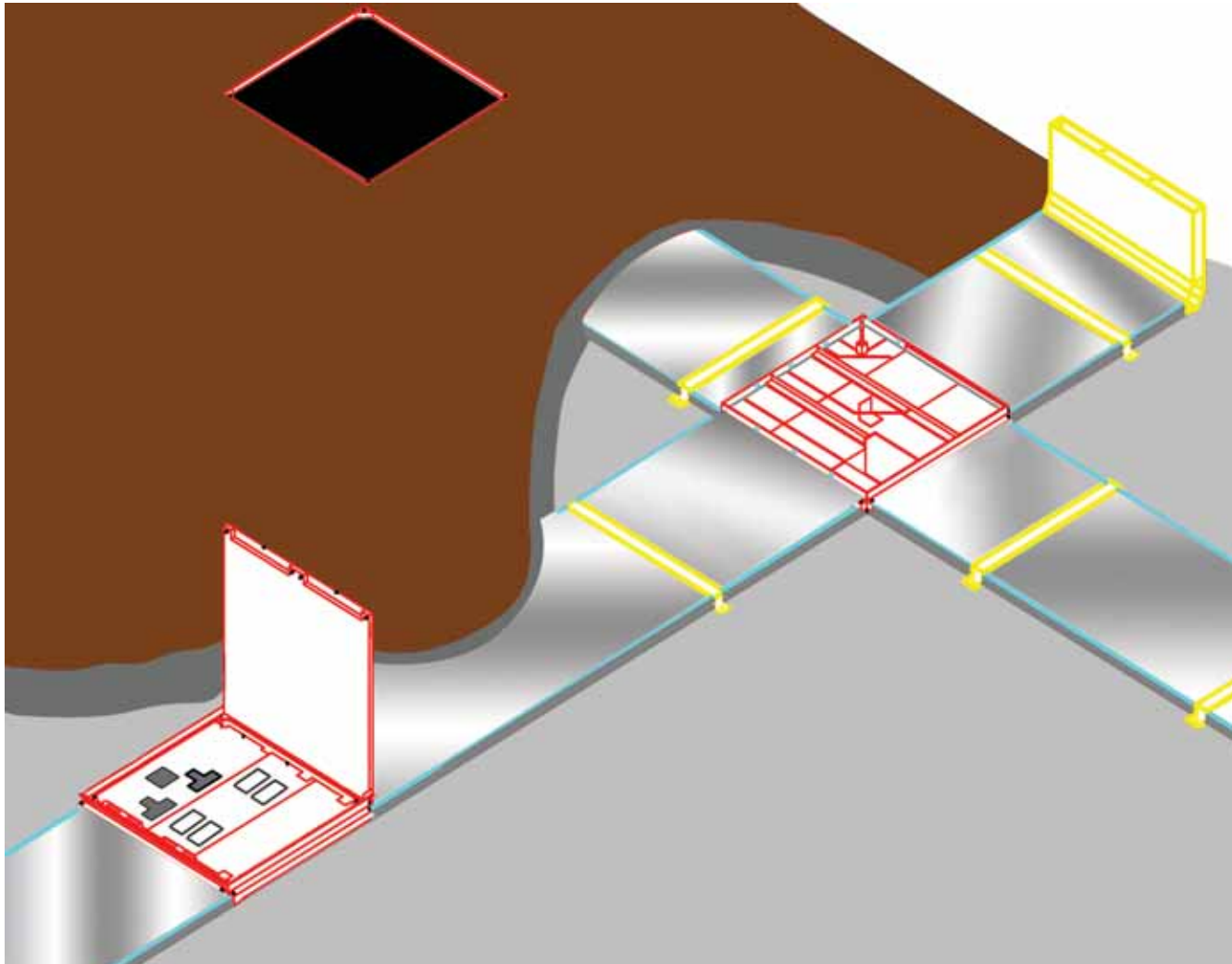


Retractable Lifting Handle



DEEP-Special Finish Solutions

Flurplan® Inscreed Duct Systems



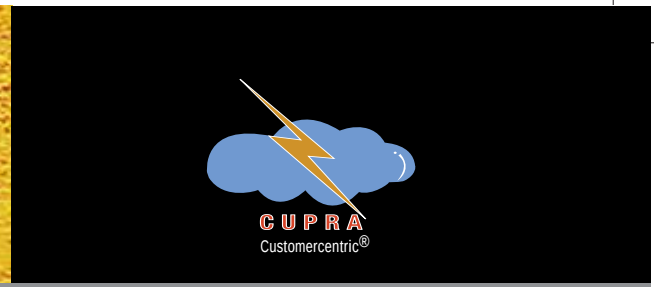
In order to implement an inscreed duct system, the following parameters are important to be known in advance, so that the installed system is utilized to its maximum efficiency, and applied correctly within the structure.

Furniture Layout of the end user

Prior knowledge of the furniture layout in coordination with the Interior Design Architect will ensure that the boxes installed within the structure will be utilized to the optimum extent. Floor Boxes are best 'hidden' under work stations to ensure that there is minimal slack or visibility of cables across floor areas. By knowing the final position of the end users prior to the installation of the floor boxes, we can ensure that the boxes are placed correctly, with provisions for expansion / workstation relocation, correctly positioned.

Carpet Colours

If the final finishes are known in a carpeted layout, it will become possible to finish the floor box carpet trims to match the carpet layout. This will blend the floor boxes into the floor layout and render aesthetics to the overall finished structure.



Flurplan® Inscreed Duct Systems

Final Finishes of the Floor Layout

The final floor finishes can determine the recess of the floor boxes. Deeper floor boxes are necessary to ensure that the box traps can take final floor finishes such as granite and marble. It is not advisable to grind marble / granite to thicknesses lesser than 20mm, without increasing the chances of tile breakage on impact. Under such circumstances, it becomes necessary to ensure that the trap recess is ready to accept such finishes. The chosen floor box must have at least 20mm recess.

Screed Depth

Greater screed depths will dictate the usage of deeper floor boxes. The boxes will have deeper/longer studs that will enable the floor boxes to be flush with the finished screed. When pre cast concrete is used, screeds of lesser depth are poured. Appropriate changes will have to be made in selecting the right boxes, with slim depths.

The cable capacity /no of users

Knowledge of the cable capacity and/or the number of users will enable the selection of the width and thickness of the inscreed floor duct. When the width of the duct increases, the thickness has to increase as well. Failure to take this into account results in screed cracking. This is due to the dynamic/static load on the screed cover, and the resultant deflection of the impacted duct.

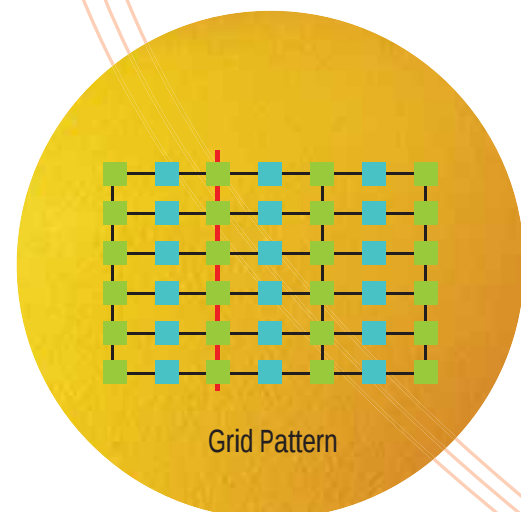
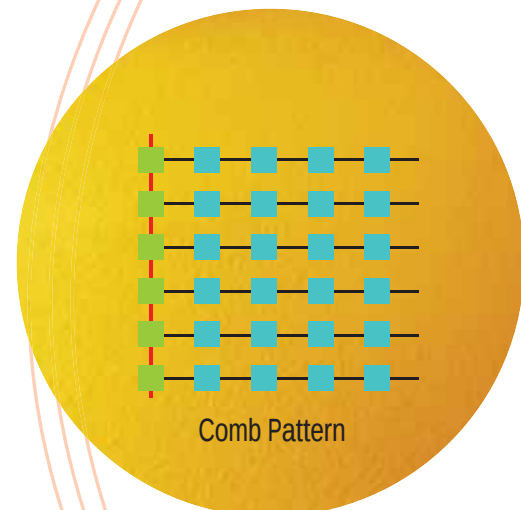
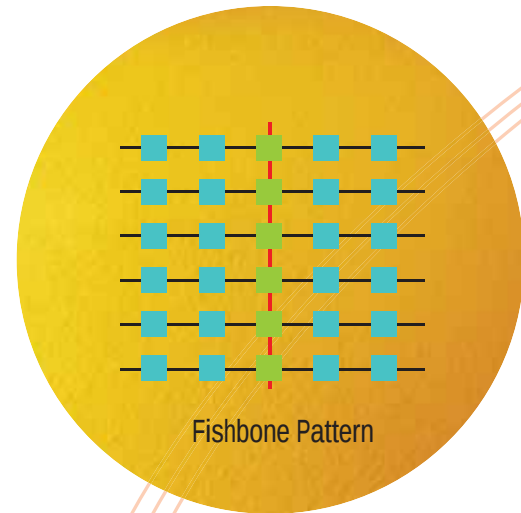
Flexibility and Layouts

Inscreed Duct Systems are fixed ducting layouts. In such layouts, it is impossible to achieve flexibility. However, the wiring of the floor boxes can have a degree of flexibility depending on the choice of layout- between Comb, Grid and fishbone patterns.

Budgets

The budget can also have a bearing on the decision to use one of three standard layouts – comb, grid and fishbone patterns. If budgets are a constraint, the comb or fishbone patterns are used. If flexibility is combined with a significant budget being made available, grid patterns are put to good use.

This can be best explained with an example as illustrated along side. For the comb and fishbone patterns, the cost is the same. For the grid pattern, the costs will go up as it involves a lot more junction boxes and ducts for the same number of service outlets. However, as there are more ducts and junction boxes, the flexibility in wiring the service boxes is far greater.





Flurplan® Inscreed Duct Systems

Building Shapes

Modern day buildings have curved fascia. The floor distribution layouts will employ an increased number of junction boxes to feed the service boxes. This might result in layouts having a combination of fishbone, comb, and grid patterns to service the particular building. This will therefore directly impact on the costs and implementation of the floor distribution system.

PVC/Metal Duct

The ideal duct for an inscreed application is PVC. This provides the right combination of strength to weight ratio. The duct size is determined by the cable capacity of the installation. This can be calculated if one is aware of the installation details, and by the application of IEE regulations in calculating the space requirements.

PVC duct options are economical solutions to route wires and cables within screeds. PVC ducts can be used for duct widths of upto 100mm. Beyond this width, the screed cover over the duct will crack, resulting in chipping and erosion of screed cover along the run of the duct.

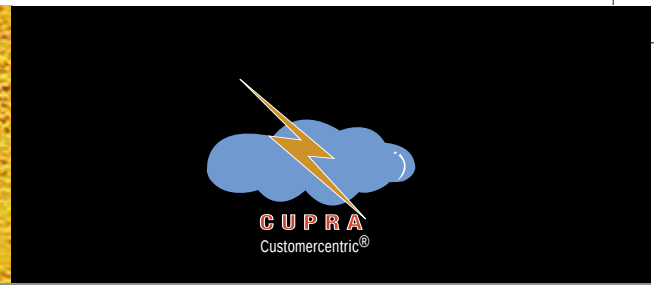
If metal ducts of large widths are used, the screed cover on the ducts will not crack, as the ducts will be appropriately supported along the run by partitions placed within the duct.

However, care must be taken while installing floor ducts manufactured from metal. The contractor should ensure that the cut edges of the duct are filed to prevent sharp edges. Moreover, the cut edges should be coated with zinc rich paint to prevent the onset of corrosion.

Loading & Box Capability

The box chosen should be capable of withstanding the loading normally seen in offices. The loading is of two types-dynamic and static. Static Loads are stationary and are applied over extended periods of time. Dynamic loads are momentary and do not last beyond small instants of time. If static loads are expected on the floor boxes, it is advisable to opt for floor boxes that are capable of withstanding these.





Flurplan® Inscreed Duct Systems

TETRUS®

Inscreed Boxes

Tetrus® - derived from the word Tetragon, which means four sided.

The key feature is four sided access without the need of any tools to remove and re-align.

The Tetrus® range of floor boxes feature die cast pillars at the four corners. These pillars are secured onto a high performance steel base. The pillars are manufactured from Die Cast material in order to ensure that the box supports withstand the corrosive effects of screed and setting chemicals. Additionally, the pillars are capable of withstanding substantial dynamic and static loads.

The Tetrus® frame and trap are manufactured from fire-retardant hardened ROHS compliant engineering plastic. This results in the high performance of the floor boxes under operation.

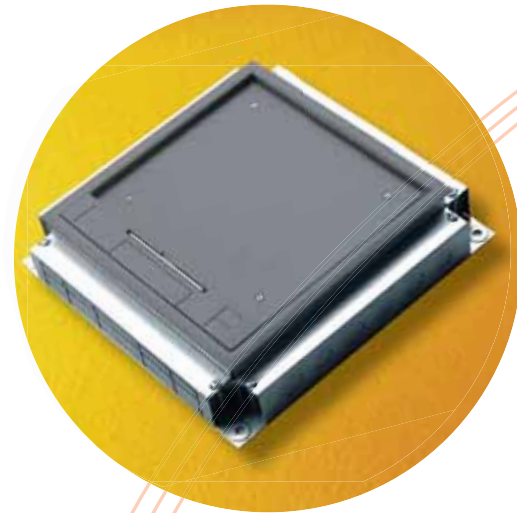
The box trap detaches when it is pulled back beyond the frame, in the open position. This feature of the floor box enables the end user to change the direction of exit of the cables from the floor box. Slots in the frame on all four sides allow the boxes to be fixed in all directions, with minimal effort, and maximum strength.

The grommets can be closed when the box is not in service. This prevents the possible misuse of the box, and prevents the chances of vermin destroying the box interiors. The handles are made from Steel, and are retractable.

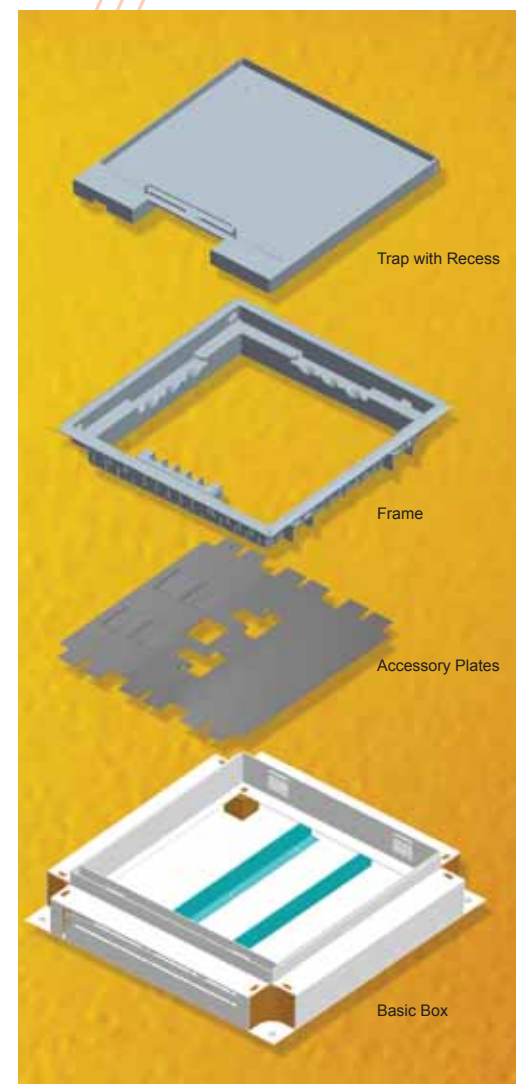
The boxes are embossed with the cupra logo- an imprint guaranteeing the quality of the floor box under different load conditions.

The Tetrus® Inscreed boxes are supplied complete with disposable lids. The boxes are placed within the screed, and installation is completed. The disposable lids remain in place until the floor system is ready to accept the final frame and trap. The disposable lid with the four pillars is supplied as a single unit called the screed basic box. The disposable lid is manufactured from 1.0mm sheet steel as there is no value addition/load bearing feature for this particular part.

The pillars in the four corners are fixed onto a base plate. The base plate serves the function of holding the pillars in place, while



Tetrus Inscreed Service Box



**Tetrus Inscreed Service Box
Exploded View-**

Flurplan® Inscreed Duct Systems

the screed is poured.

The side blanks are punched to be suitable for ducts of 25mm and 40mm; depending on the duct, the right knockout is broken off, and the duct fixed to the boxes. The side blanks act as adaptors to hold the ducts in place. Additionally, the side blanks also reduce the ingress of screed and slurry into the floor boxes during the screed process. It is however, advisable to ensure that the entry points into the floor boxes are sealed effectively with sealant or using other means to ensure that the insides of the boxes do not get damaged during the screeding process.

The Tetrus boxes are self leveling, and adjust their relative position with respect to the finished floor by the use of ratchets that engage the frame with the basic box. The frame is secured to the basic box by means of screws that enable the ratchets to grip. When loads impact the floor box, the frame engages even further thereby ensuring that the boxes self adjust without any need for screws etc.

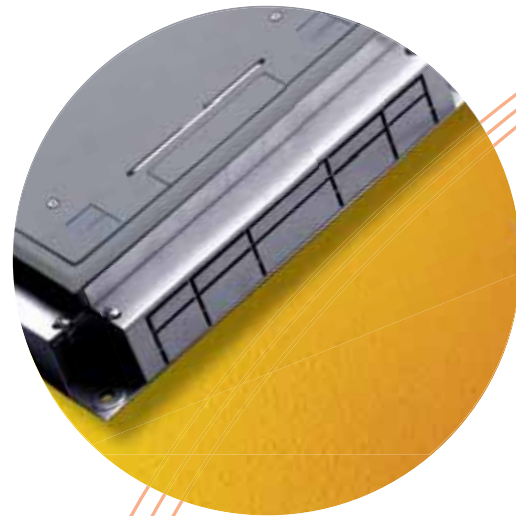
The Tetrus key feature lies in the capability to rotate the frame in all four directions. This is made possible by notches in the frame that engage the trap, in all four directions. The grommet can be removed and repositioned, thereby allowing cable exit in all four directions.

Earth Studs are fixed onto the base of the screed basic box, in both side compartments, to allow flexibility of choice for the installer. The studs are placed to the sides of the boxes to ensure that they do not interfere with the wiring process.

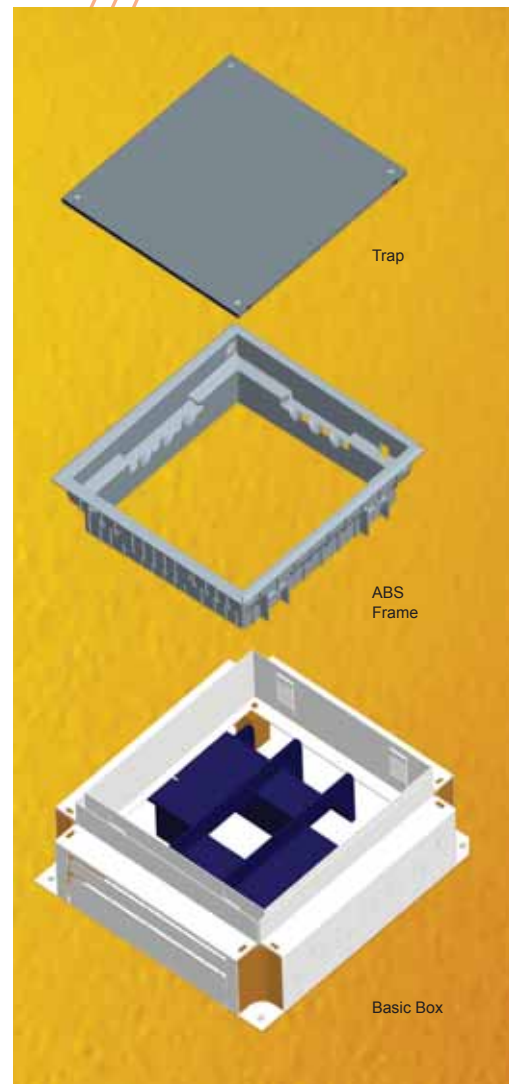
Accessory Plates are fixed within the triple compartment interiors to take the necessary accessories. The customer could choose to populate one, two or three compartments, depending on requirements. Blanks are to be fitted if two out of three compartments are used. Alternately, two compartment plates may be utilized to populate accessories.

Tetrus Inscreed Junction Boxes

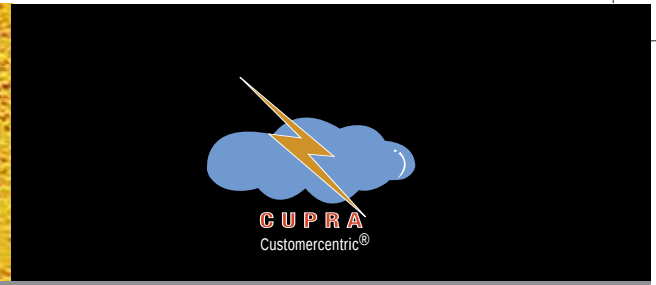
Tetrus Junction Boxes are used to change direction of cable run within floor screeds. The orientation of the cables is maintained by using flyovers. Just as flyovers within a road network achieve different directional changes by maintaining orientation, flyovers within floor junction boxes also ensure change in direction of cable runs, by maintaining integrity in all directions.



Side Blank Detail



**Tetrus Inscreed Junction Box
Exploded View-**



Flurplan® Inscreed Duct Systems

Unlike service boxes, the junction boxes are not accessed for cable exit. The junction boxes are used only to wire and reroute cables. Therefore, the need does not arise to have a multisided exit as the service boxes. The Tetrus Junction box traps are fixed to the polyamide frame, which in turn is fixed to four die cast pillars that are fixed at the four corners.

The flyover is manufactured from GI. Plastic flyovers are also available as a standard option. The flyover is not a load bearing component, and therefore the plastic flyover will provide a functional solution to segregate the cables and maintain integrity.

THE ALUTRIM® RANGE

Alutrim Boxes are metallic alternatives to the Tetrus Range of floor boxes. The Alutrim Range key feature is the extruded Aluminium trim that is used in the manufacture of the trap. The extruded aluminium is prepared to the dimension of the frame, and secured to each other.

Slots are present in the inner side of the aluminium trim. The trap hinge is manufactured from spring steel and secured to the trim in the slots. As a result of this, the trap slides easily, and is fully reversible. The Alutrim box traps are four-sided, like the Tetrus range.

The grommets lock automatically in position when placed in service. This ensures that cables do not get cut when the grommets experience a dynamic load. Grommets are filled with sponge to reduce dust seepage and grime inside the box.

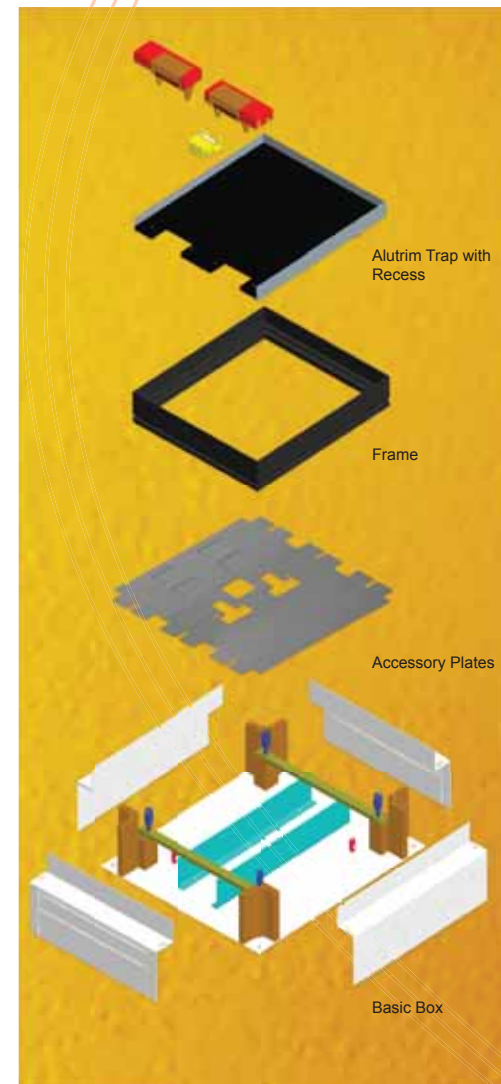
The lifting handles fall in place by gravity when not in use. This prevents possible hazards when there is traffic on the installed floor, by presenting a smooth surface.

A 6mm recess in the trap ensures readiness to accept carpet and carpet tiles. Optionally, 12mm recess is available as a standard feature with the same Alutrim features.

Side blanks are punched to take metal ducts of different depths 25mm, and 40mm. Alternately, larger depths can be made available on request. The side blanks can also be punched to accept 25mm or 32 mm conduits on request. As a safeguard, it is always advisable to ensure that entry points are taped or sealed with sealant, once ducts are put in place. This will reduce chances of screed seepage into the floor box.



Plastic Flyover



**Alutrim Inscreed Service Box
Exploded View-**



Flurplan® Inscreed Duct Systems

Levelling studs at the four corners of the floor box are adjusted so that level differences can be accounted for and rectified. The level correction is possible upto 5mm. The leveling studs are countersunk to accept screws that fix the alutrim frame to the base of the box.

Pillars are fixed at the four corners of the box on a base plate. The pillars are manufactured from die cast material, and can therefore take static and dynamic loads normally seen in offices. Earth studs are fixed to the base plate on both side compartments to provide earth continuity. The earth terminals accept upto 4mm² wires. The earth studs are offset to the sides to prevent impediments while the boxes are wired.

The screed basic box consists of the base plate, and the pillars at the four corners, appropriate side blanks and a disposable lid. The screed basic box is installed at the time of screeding, and the Alutrim frame and trap are fixed to the basic box, after the screeding process is completed and prior to project handover.

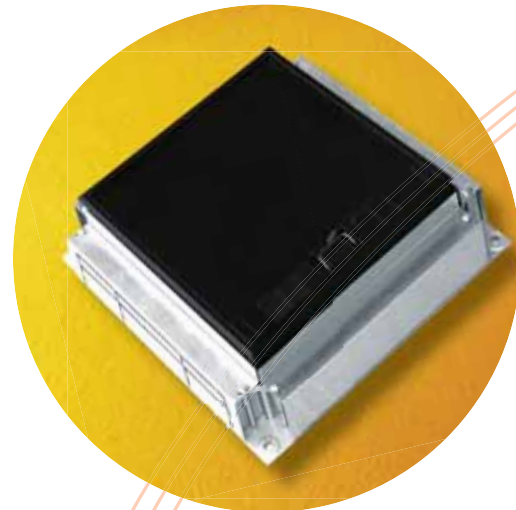
An embossed Cupra Logo on the trap assures the end user of the high quality standards that the box stands for.

Alutrim Junction Boxes

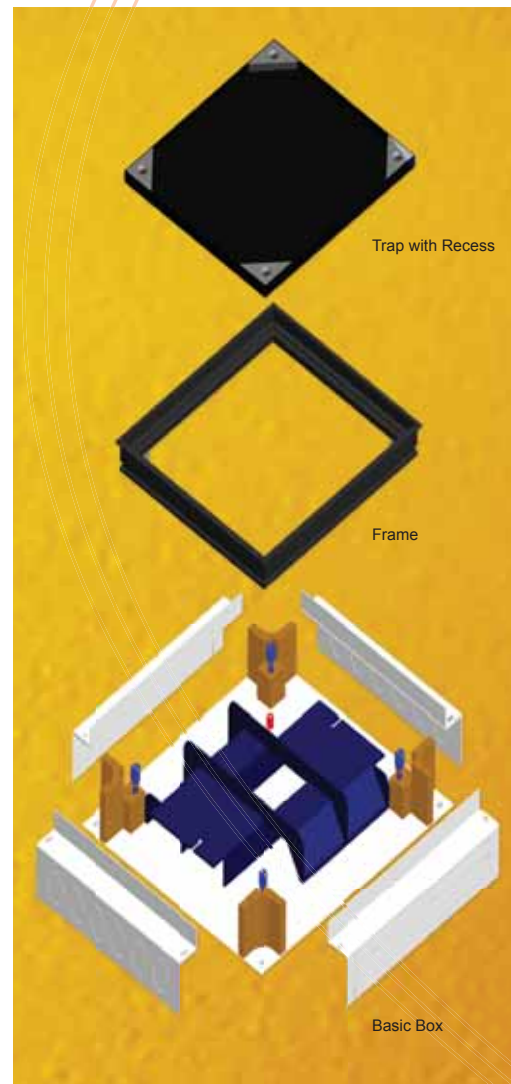
The Alutrim FlurPlan Inscreed Junction Boxes are manufactured from extruded aluminium except that there are no exits for the cables from the floor box. The trap is secured to the frame using screwfix schemes that fix into leveling studs at the four corners of the floor box.

There are no lifting handles for the Alutrim range Junction boxes. The boxes are lifted off using suction cups. The recess in the trap enables the fixing of final floor finishes in the recess provided.

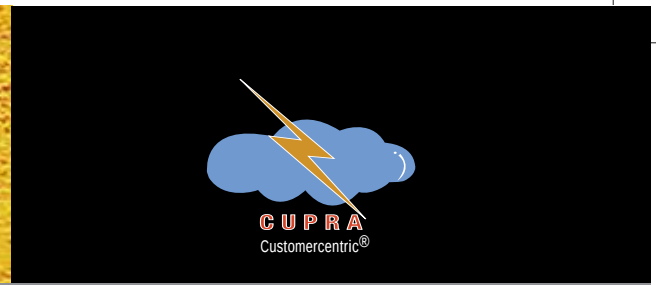
The flyovers are manufactured from GI and epoxy coated thereafter. The depth of the flyover, like that for the Tetrus range is a minimum of 40mm in line with the maximum duct size for standard floor boxes. Plastic flyovers are also supplied as options. As the flyovers are not load bearing components, the plastic option is a better solution.



Alutrim Inscreed Service Box



**Alutrim Inscreed Junction Box
Exploded View-**



Flurplan® Inscreed Duct Systems

DEEP RANGE

Service Boxes

In certain markets, it is common practice to use high finish floorings in public areas such as shopping malls, office counters, etc. Most high finish floorings employ brittle solutions such as granite and marble. When such floorings are ground to thicknesses lesser than 20mm, these could crack. In such cases a standard 6mm or 12mm recess might not serve the purpose, as this cannot accept 20mm tiles. Instead, it is advisable to utilize a deep recess solution, such as the DEEP range from Flurplan, Cupra.

The DEEP Range of Inscreed boxes from Flurplan, Cupra are available in standard recess of 20mm to accommodate special finishes.

The trap design incorporates a captive lifting handle. Depending on the overall dimensions of the service outlet box, options for fitment include elimination of hinges. In such circumstances, the trap is lifted off using a suction cap. The thickness of the trap load plate is at least 3.0mm. This could increase depending on the floor finish and/or the depth of the recess.

The maximum recess that can be accommodated in the DEEP range is 40mm.

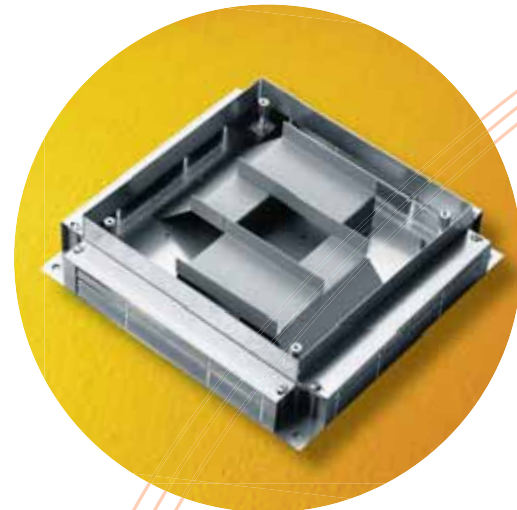
The grommets of the DEEP range of Service Boxes are fixed and cannot be relocated in other directions. The DEEP range therefore allows the cables to exit the box in a single direction, unlike the Alutrim and Tetras ranges of boxes from Flurplan, Cupra.

In certain high traffic applications and large dimension boxes, support studs are provided at strategic load points to support the trap. This transfers load from the trap to the base of the box, thereby preventing the possibility of cracking of the floor finish that is fixed in the recess of the floor box.

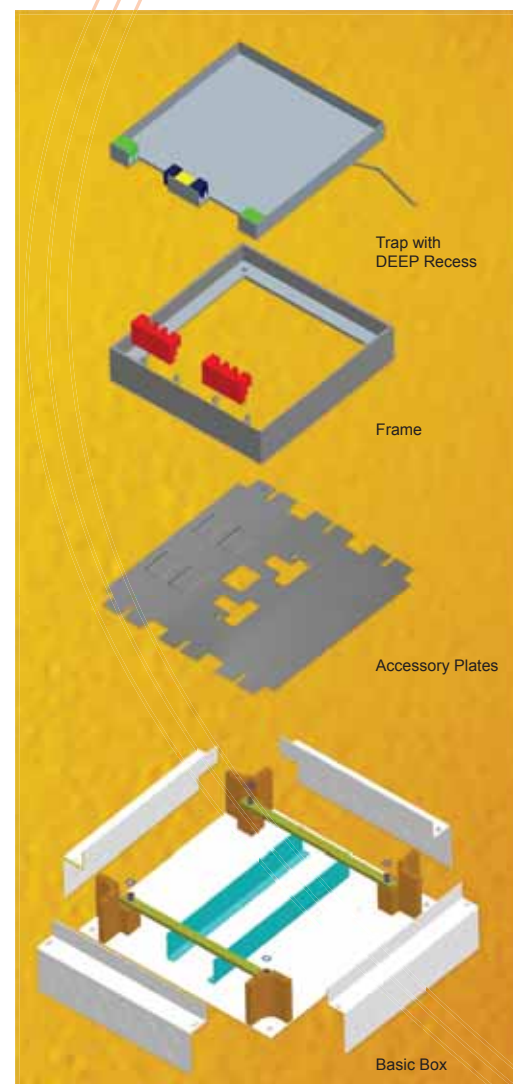
DEEP Junction Boxes

The DEEP Junction Boxes from the Cupra Flurplan range are unique when it comes to unequal transitions on floor layouts. Flyovers can be modified to achieve unequal transitions from one direction to the other. If one run's dimensions are different to that of the other, it is possible to achieve a reducer/adaptable version of a flyover that will ensure a smooth flow from one side to the other.

The DEEP Junction box trap is secured to the frame using



DEEP- Junction Box



**DEEP Inscreed Service Box
Exploded View-**

Flurplan® Inscreed Duct Systems

screws. The recess is similar to that seen in the service boxes. This ensures that there is uniformity in the floor layout.

The flyover is manufactured from sheet steel and epoxy powder coated thereafter. As in the TETRUS and the ALUTRIM ranges, the flyover is not a load bearing component. Plastic options are also available.

FLURPLAN DUCTS & ACCESSORIES

Ducts

If care is not taken during the selection of the duct, screed cracking and chipping could result, thereby initiating the exposure and resultant damage of the duct buried within the screed.

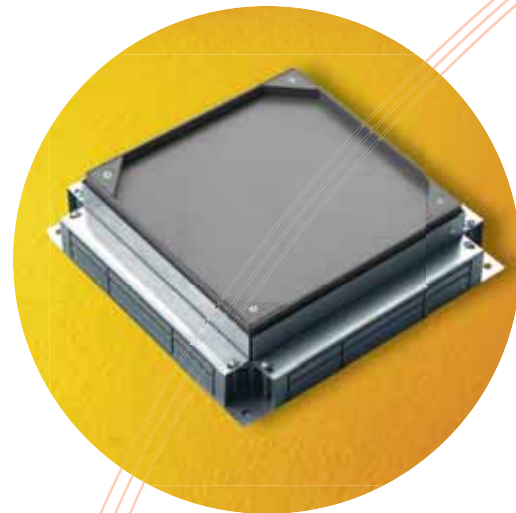
The Flurplan ducts are supplied in uPVC or metal. uPVC ducts are available in two sizes, 75x25mm and 100x25mm single compartment ducts. As the ducts are buried in screed, the screed cover on the duct and traffic will result in the ducts deforming under the stress. This will result in the cracking of the screed cover over the ducts, and subsequent failure of the ducts. uPVC ducts therefore cannot be supplied in larger widths.

uPVC Ducts are manufactured to the exacting standards of BS 4678 Part 4:1982 and BS 4678 Part 2: 1973.

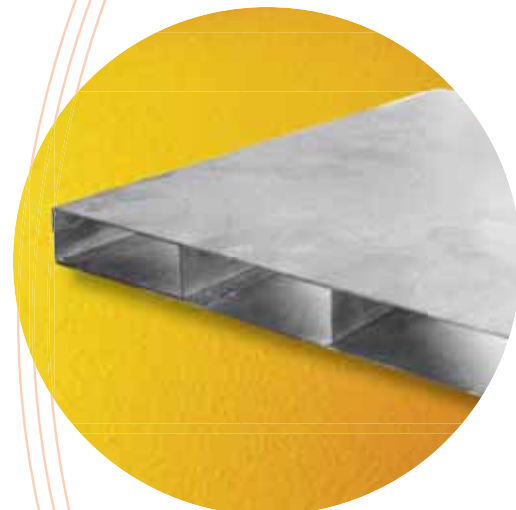
Metal ducts are available in various sizes, ranging from 75x25mm single compartment, to various sizes in multi-compartment versions. Duct wall thickness varies from 1.0mm, to 1.5/2.0mm depending on the span of the duct. In multi-compartment ducts, vertical separators are welded within the ducts to enable segregation of the ducts into compartments. Metal ducts are manufactured from sheet steel complying to BSEN 10327: 2009 (formerly BS EN 10142: 1991) and BS EN 10143: 2006 (formerly BS 2989:1992). The ducts so manufactured conform to BS 4678-2:1973 and BS EN 50085-2-2 : 2008.

Ducts are available in different configurations. These include a knockdown version, where the ducts comprise three upturned U channels that are covered by a single all-encompassing inverted U channel. The upturned and the inverted U channels are taped together on site according to the pre-agreed configuration and placed in position to thread the boxes. Thereafter, screed is poured and the installation achieved.

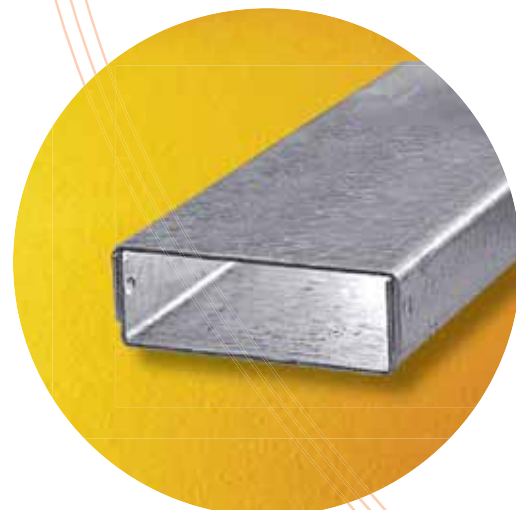
With the increased use of structured cabling, it has become



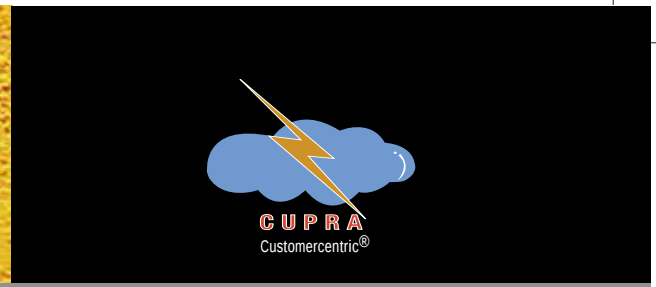
DEEP 12mm Recess Junction Box



3 Compartment Metal Inscreed Duct



1 Compartment Metal Inscreed Duct



Flurplan® Inscreed Duct Systems

essential to have larger ducts to accommodate telecommunication cables. Data and telephone services have merged into a single LV service, as a result of which ducts are designed to accommodate more data/telephone wires than power cables. This results in unequal compartments which can contain more cables on the low voltage side. This will segregate the LV services and also provide an economical solution.

uPVC Ducts are preferred over Metal ducts due to a number of advantages such as :-

- Ease of handling
- Cost effective compared to metal
- Positive strength to weight ratio
- No earthing issues

When used in conjunction with the Cupra Flurplan Inscreed boxes, uPVC ducts will last the life of the building. The ducts do not corrode in the presence of screed setting chemicals and water due to their non-rusting nature.

Duct Couplers

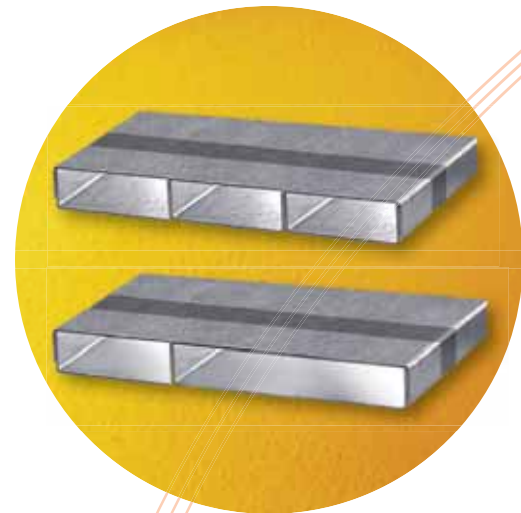
Duct Couplers are used to connect ducts together. uPVC couplers are used to connect uPVC ducts together, while metallic couplers are used to connect metal ducts together. Metallic couplers are single units used to connect multicompartment ducts, while uPVC duct couplers are used to connect single uPVC ducts together, individually.

Stop Ends

Stop Ends are used to close ducts at edges should it become necessary to terminate the ducts at the ends of floor layouts. The stop ends are taped into place at the end of the ducts.

Vertical Drop Down Boxes

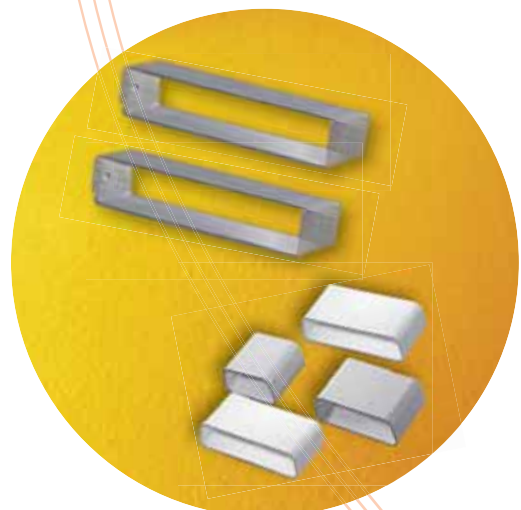
When cables are dropped down from overhead runs, these are contained in trunkings, ductings or conduits, or plain clipped onto walls. The wires that are dropped down are threaded through vertical drop down boxes. The front plate of the Cupra Flurplan Vertical Drop Down Boxes can be opened up to gain access. The wires that are dropped down are threaded into the floor distribution



Cost Effective & Unequal Solutions



uPVC Duct



Duct Couplers - Metal & PVC



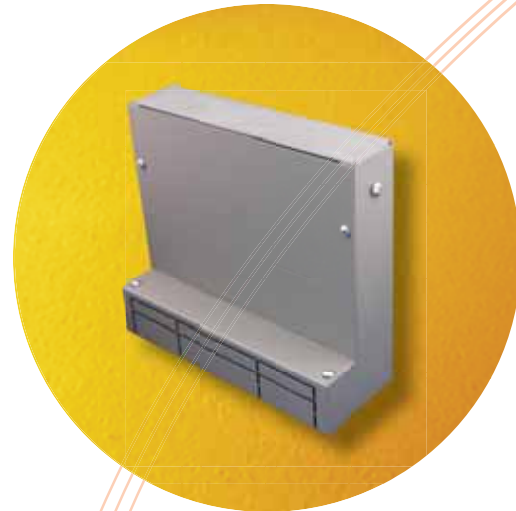
Flurplan® Inscreed Duct Systems

system on the horizontal plane.

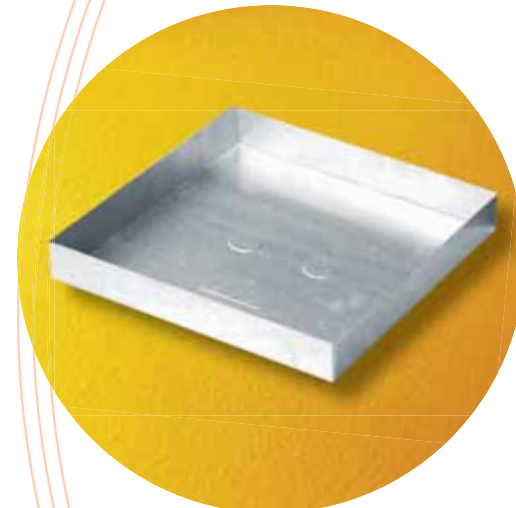
The vertical drop down boxes are manufactured from sheet steel complying to BSEN 10327: 2009 (formerly BS EN 10142: 1991) and BS EN 10143: 2006 (formerly BS 2989:1992) and are presented in bare self finish. These can be painted if necessary to coordinate with wall finishes.

INSTALLATION BEST PRACTICES

Any inscreed system involves the fixing of ducts and boxes within



Vertical Drop Down Box



Disposable Lid





Flurplan® Inscreed Duct Systems

the screed, on concrete. As there are civil works involved, coordination between the floor system installer and the civil contractor can ensure a good finish for the client. A further coordination with the local Cupra Offices or the distributor will ensure that any possible installation issues are overcome. Solutions can be found for complex site conditions that may normally not be available or known to the installer/contractor.

Once the ducts are known, the system designed, and the cable capacity proven, the ducts are chosen depending on the specifications of the project.

The final finished level is determined from the engineer. Accordingly the slab gets a screed bed or is chipped to ensure that the final level of the floor box is in line with the FFL agreed.

The box positions are marked as per the finalized shop drawings. The screed basic boxes are fixed to the slab. The trunking runs are traced back to the vertical drop down boxes, and the installation commences at this point.

If metal ducts are used it is recommended to avoid cutting onsite. If cutting cannot be prevented, the cut edges have to be filed. This ensures that sharp ends are removed. A coat of zinc rich paint such as zink-o is applied on the cut edges to prevent the on-set of corrosion.

Sufficient support is provided along the entire run of the floor ducts and boxes. This is achieved by pouring a layer of green screed along the approved runs. The support is necessary to prevent cracking of screed on the impact of dynamic or static loads.

It is important to ensure that there are no gaps between the boxes and the ducts at the point of duct entry into the box. This ensures the prevention of screed seepage into the box at the time of pouring screed.

With modern technology involving the use of impactors, the chances of ducts being dislodged at the time of screeding are high. It is therefore important to ensure that the ducts are secured to the slab with appropriate clips in case long lengths are used between boxes.

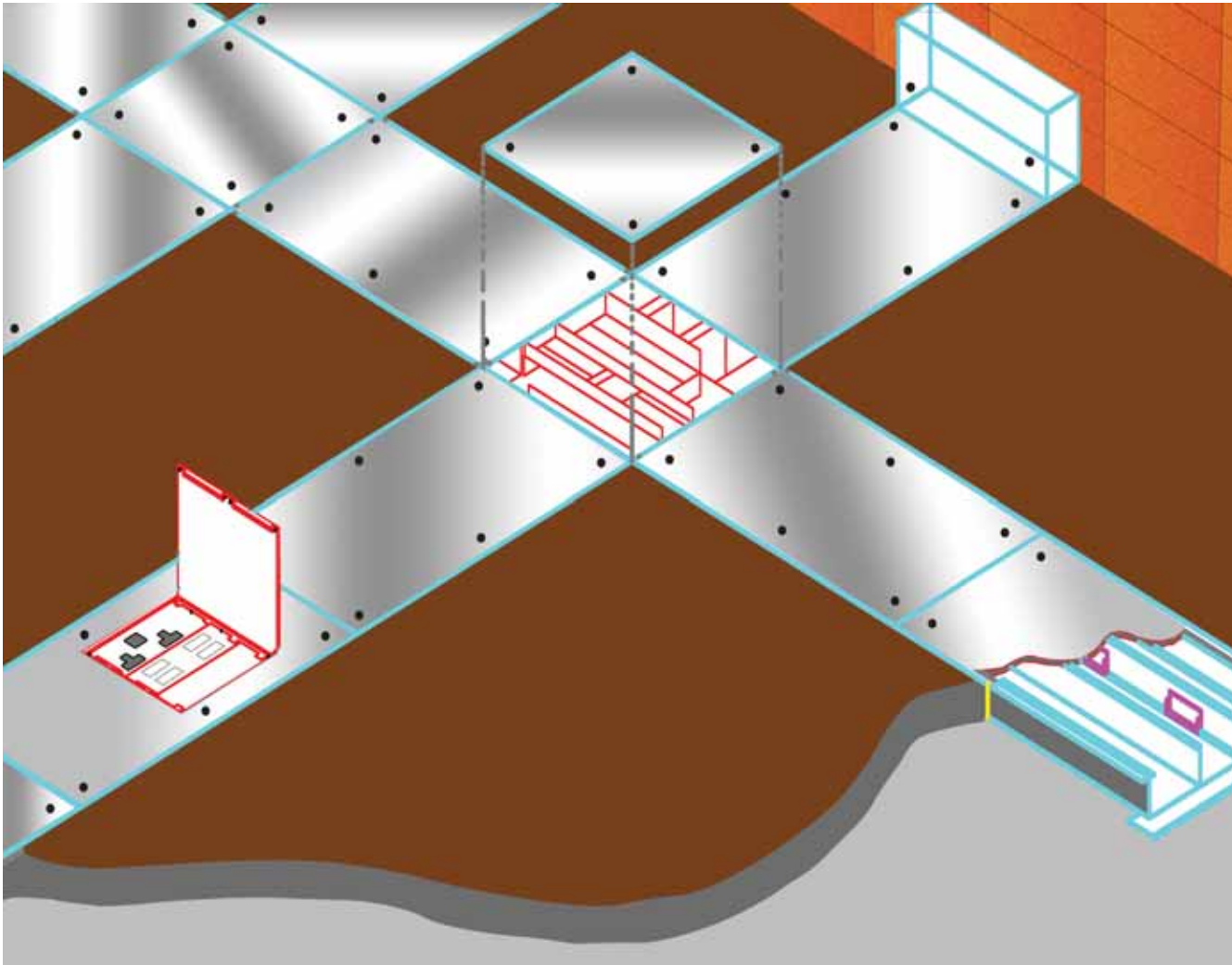
Once the screeding is complete, the disposable lids are removed, and the boxes are wired in line with local regulations and requirements. Thereafter, the frame and trap are fixed in place, and the final finishes on the floor installed. Appropriate finishes are cut into shape and fixed in the trap to ensure uniform layout across the floor space.



Inscreed Layout



Flurplan® Flushfloor Trunking Systems



The Flurplan® Flushfloor Trunking System can be effectively applied to buildings where the floor plans are not known in advance. As the system is flexible in a linear direction, this gives flexibility to the end user to relocate floor boxes to the convenience of the end user. To implement a flushfloor trunking, the following parameters are best known in advance.

Partition Layout

Flushfloor trunking is normally utilized in office buildings that have open office plans. Proposed partition layouts will help in fixing and locating the header and branch trunkings. Header trunkings are offset from the centerline of the corridor as it is human tendency to walk along the central part of the corridor.

Final Finishes of the Floor Layout

The final floor finish in a flushfloor trunking layout is generally carpet or carpet tiles. Carpet tiles are removable and can be refixed. Carpet tiles have a rubber backing that can be glued to the trunking. Carpets, however, are laid wall-to-wall, and therefore do not allow easy access to the trunking.



Flurplan® Flushfloor Trunking Systems

If prior knowledge of the carpeting system is known, the relative position of the flushfloor trunking can be fixed. Flushfloor headers can be placed along the wall, in case wall-to-wall carpeted floors are expected. Carpet tiles, however, do not restrict the position of the flushfloor trunking.

It is also possible to align ceramic tiles along the edges of the flushfloor trunking. This will create clean cut lines along the outer flanges of the flushfloor trunking. It is not possible to install tiles on the floor trunking, as this defeats a prime objective of the flushfloor system, which is flexibility and access. However, if the objective of the flushfloor trunking is cable capacity, tiles can be mounted on the trunking, which converts the trunking into a ducting system of larger depth.

Screed Depth

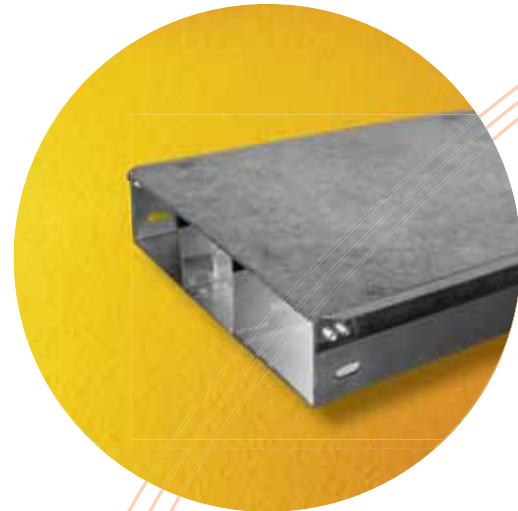
Greater screed depths will imply the usage of flushfloor trunking of greater depths. This can also result in flushfloor trunking being installed on a layer of pre-cured screed that is thicker. Most manufacturers supply flushfloor trunking in depths ranging from 65mm to 80mm. Depths beyond this will remain stable only on the usage of the right components in the manufacture of flushfloor trunking. This will imply, for instance, a body thickness of at least 2.0mm for extra deep flushfloor trunkings in order to maintain system stability. Please contact your local distributor for flushfloor trunking in special depths.

Cable Capacity / No Of Users

Knowledge of the functioning of a flushfloor system is essential in the application of flushfloors within office buildings. A flushfloor system provides significant cable capacity for wiring cables. As the number of users increase, an increased number of vertical drops may be required. Additionally, it may become necessary to segregate trunking runs as headers and branches. In branch runs, the cable capacity gets reduced to about 15% of the full trunking capacity. Therefore it is necessary to run main feeds through header trunkings, and branch off service boxes into service or branch trunkings.

Flexibility and Layouts

Flexibility is a key feature of the flushfloor trunking system. In flushfloor trunkings, it is possible to re-locate service boxes along the run of the trunking provided there is sufficient slack in the wires connected to the service boxes. Care should be taken to provide for these extra wires within the containment.



Flushfloor Trunking



Tetrus Flushfloor Service Module



Flurplan® Flushfloor Trunking Systems

Budgets

The budget can have a bearing on the decision to use one of two standard layouts – comb and fishbone patterns for flushfloor trunking systems. The grid system is not necessary in a flushfloor trunking layout, as a similar level of flexibility can be achieved within a similar radius of ‘reach’ if either the comb or the fishbone layouts are used.

Quality Of Installation

In flushfloor layouts, the header trunking is placed as far away from traffic to reduce impact and possible noise that could result from impact. For example, the header along a corridor is typically offset from the centre, as the tendency of traffic to move along the centre line could result in constant noise. If the final floor finish is of a poor quality, the chances of transmission of sound increase.

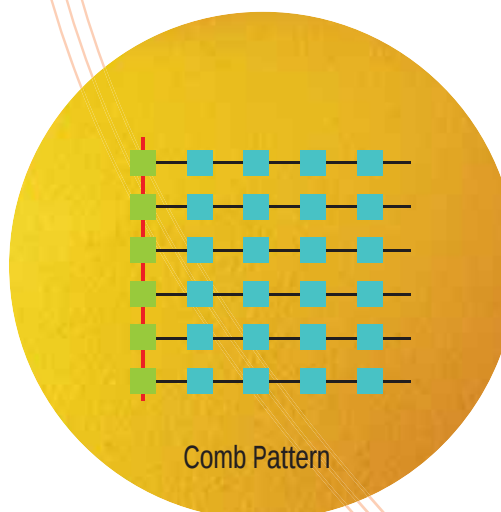
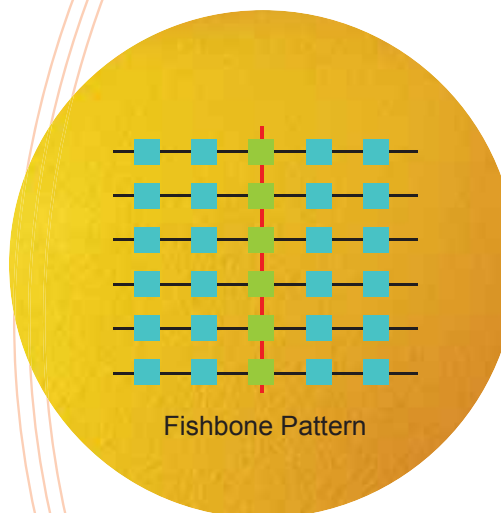
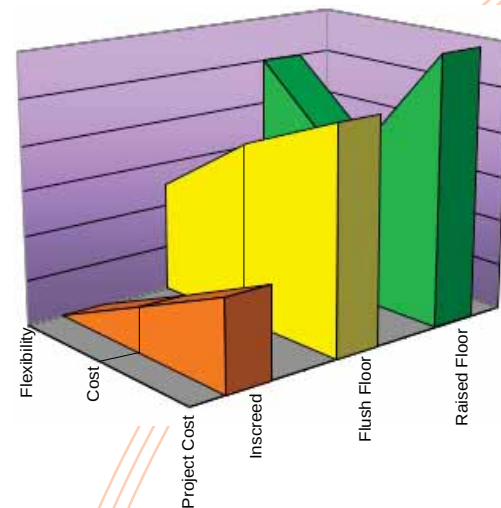
Moreover, if the installation is not correctly carried out, the flush floor trunking cover could deflect, resulting in the increased upward stress on fixings, and the resultant wear of the threads holding the covers to the body of the trunkings.

Building Shapes

Building shapes can change the possible costs of flushfloor trunking. For instance, in curved buildings it is likely that more junction boxes may have to be used to achieve changes in direction. This could also result in specials, such as angled boxes, and transition junctions that could impact on costs as well

Loading and Load Capability

Flushfloor trunkings are supported in many ways. The key design elements in a flushfloor trunking are the design of the cover that is impinged by loads and traffic, the mode or scheme of securing the cover to the body, the partitions, and the body thickness. The most important aspect in all these is the accuracy in the manufacture of the trunking. If accuracy is maintained, the flushfloor trunkings can support high levels of static and dynamic loads without deflection or failure.





Flurplan® Flushfloor Trunking Systems

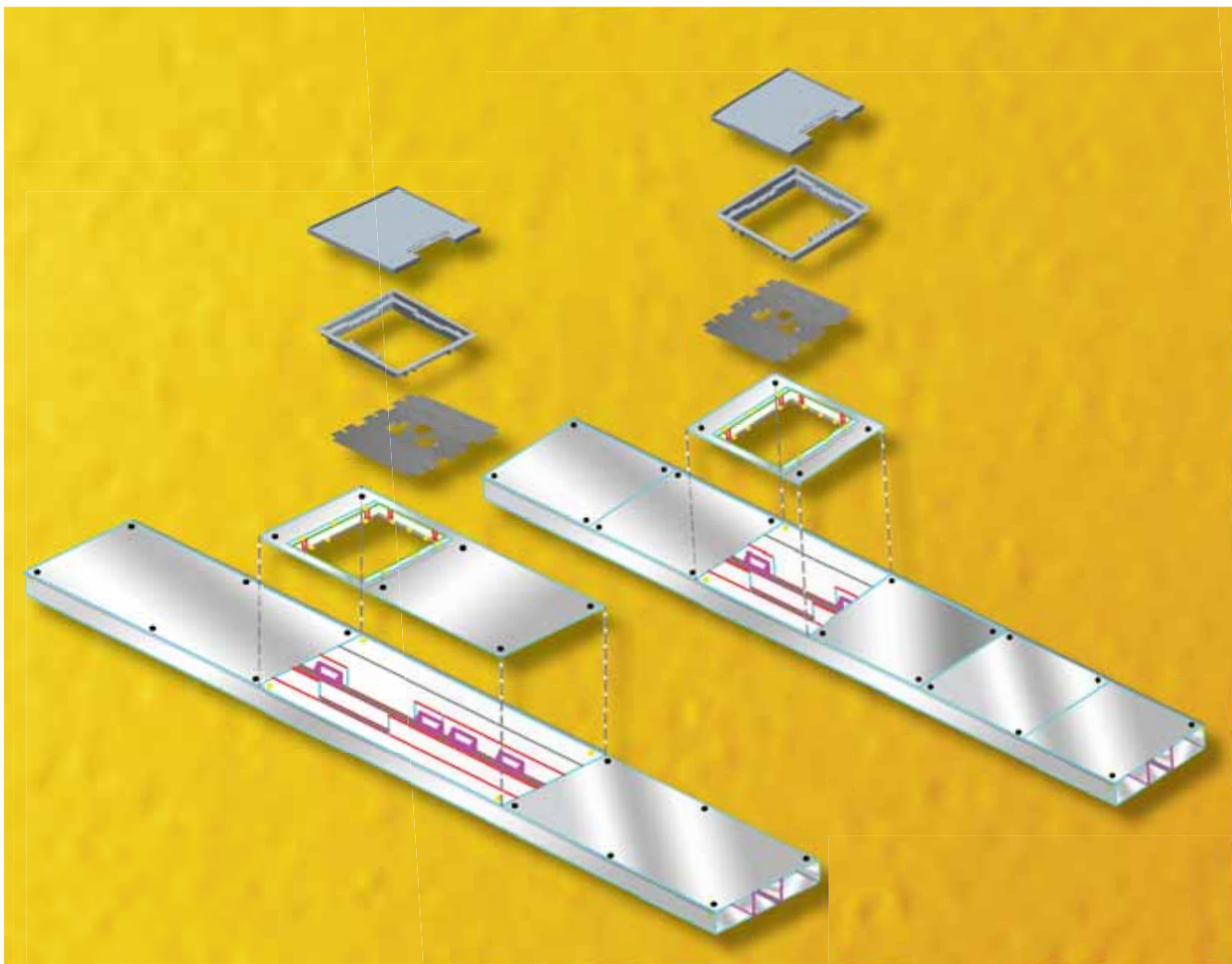
THE CONCEPTS

The Flushfloor trunking consists of the following components:-

- Straight Lengths
- Service Outlet Units
- Junction Boxes
- Vertical Drop down Boxes
- Couplers and ancillary Units

Straight Lengths

The Flurplan flushfloor trunking systems from Cupra are manufactured from sheet steel complying to BS EN 10327: 2009 (formerly BS EN 10142:1991) and BS EN 10143: 2006 (formerly BS 2989: 1992) to the requirements of BS 4678-2-2:1973 and BS EN 50085-2-2:2008. Trunking straight lengths are 2.44m length as standard in order to ensure a grid size of close to 2.5m. The covers of the trunking are run flush with the final finish floor screed level. As a result, the flushfloor trunking covers are accessible at all times, and can be relocated along the length





Flurplan® Flushfloor Trunking Systems

of the flushfloor trunking, to suit the requirements of the end user / occupant.

The Flurplan Flushfloor Trunking covers are at least 2.5mm thick. 3.0mm thick trunking covers are available as a standard option. Each length of 2.44m is supplied with three covers, each of which are 813.2mm long. The covers are secured to the base at six points along the cover. Stainless Steel screws are used to secure the cover to the base, to prevent possible jamming of the covers, which can happen at the time of screeding.

The Flurplan trunking can also be supplied in a six cover version, each cover being 406.6mm long. A smaller cover will not allow the service outlets to be fixed on such modular covers.

The base of the flushfloor trunking is manufactured from 1.52/1.6mm thick sheet steel that conforms to the requirements of BS EN 10327: 2009 (formerly BS EN 10142:1991) and BS EN 10143: 2006 (formerly BS 2989: 1992). The body thickness increases if the trunking depth increases beyond 80mm. This is necessary in order to maintain stability of the trunking under load conditions.

As the Flurplan® Flushfloor Trunking is constantly being impacted by loads, the force is dissipated in different directions. The walls of the trunking are stressed outward and experience an inverse resistive force from the screed. The outer flange is fixed to the body of the trunking and aids in maintaining the integrity of the shape of the flushfloor. The flange also prevents screed chipping when the covers are removed at the time of wiring.

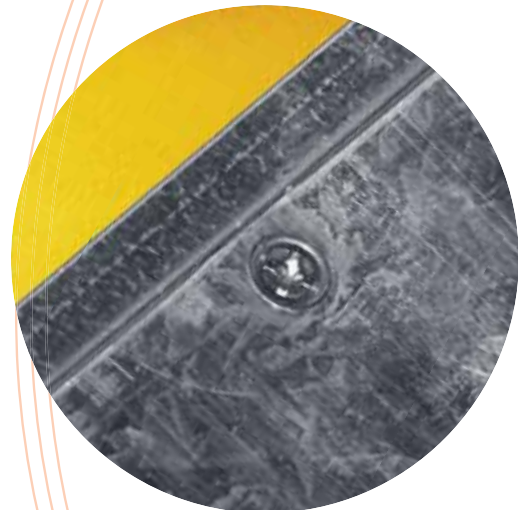
During the screed pouring process, the walls experience an inward stress that tends to move them inwards. An equivalent outward force is exerted in the vertical direction on the covers that are fastened by stainless steel screws. The screw threads are cut on the body of the trunking. It is therefore important that the trunking body thickness is not reduced below 1.0mm, to ensure that the threads do not 'wear'.

The threading is done by drawing the steel inwards, into the trunking, and reorganizing the steel, by a process known as thread form tapping. This can be done only on complex machinery; the choice of product is therefore important to ensure that accuracy is achieved.

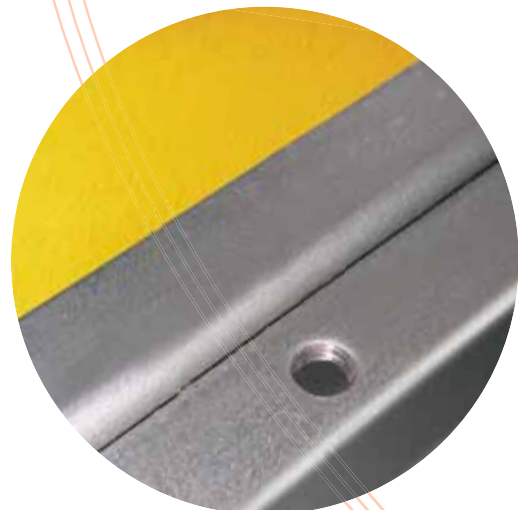
Incorrect positioning of slots will result in hole mis-match, and the resultant difficulty in fixing covers onto bases. If the covers are not



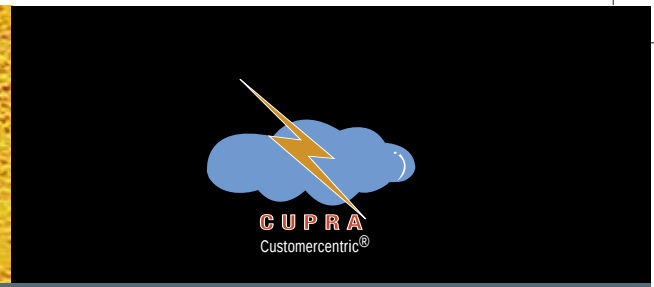
Secure Partition Assembly



Stainless Steel Fasteners



Form Tapping



Flurplan® Flushfloor Trunking Systems

positioned correctly, the covers could rub against each other, and result in noise as a result of the abrasion.

The accuracy of the Flurplan® Flushfloor Trunking is 0.1mm over a 2440mm long length. This will ensure that the trunking and its covers are accurately positioned, relative to each other. There will not be any relative movement of the trunking, and neither will there be a gap between the covers.

The trunking is supported along its entire length by partitions to ensure proper load transfer. The partitions are clipped into partition bases by secure means. Clips formed on partitions ensure that they are securely fixed to the partition base and stay firm. The partitions have a gasket mounted on them. These gaskets are manufactured from hard wearing rubber to ensure that they do not break or soften when impinged by the covers that rest on them. The partitions do not move on impact, and this ensures that personnel walking on the trunking do not feel the 'softness' that could result when the partition is weak. Accuracy during the manufacturing process prevents gaps between the partitions and the cover.

Service Outlet Units

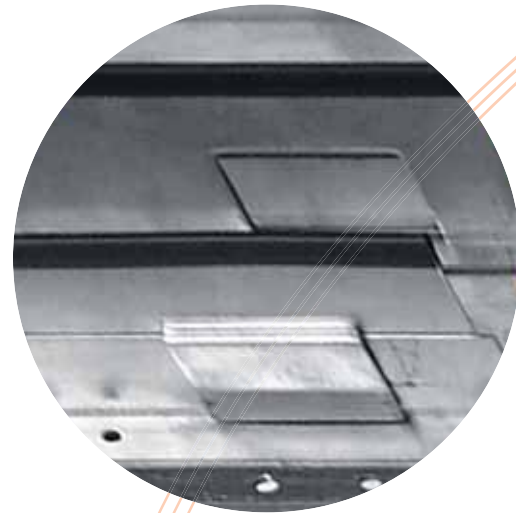
Service Outlet Units (manufactured to BS EN 60670-23:2008) are fixed onto modular covers that are the same size as the standard module. The service outlets can therefore be 406.6mm or 813.2mm long. These can be interchanged along the entire run of the flushfloor trunking, as long as sufficient slack is provided in the cables connected to the service outlet module.

The service module frame and trap are available in two options, the Tetrus and Alutrim versions. The features and benefits of the Tetrus and Alutrim construction are extended to the service outlet units of the Flurplan® Flushfloor Trunking.

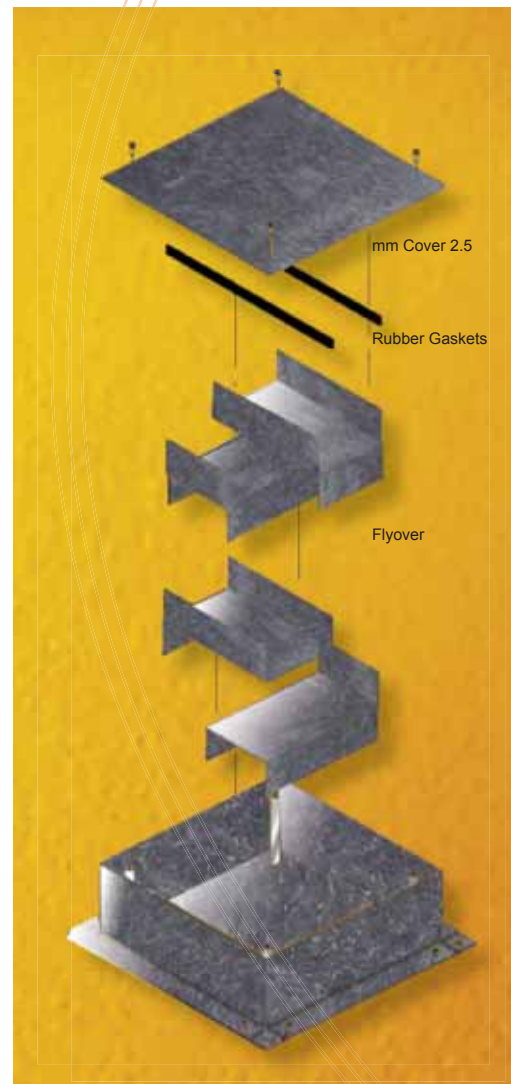
As flushfloor trunking is mounted in areas where flexibility and the capability to access the trunking is required, it is not possible to fix finishes such as ceramic tiles or special finishes such as marble on flushfloor trunking. Flushfloor service outlet units are therefore not supplied with Deep Frame and trap options.

Junction Boxes

Junction Boxes are manufactured to BS EN 60670-23:2008 from pre-galvanised sheet steel, with aluminium cylinders at the four corners to secure the covers to the base. The flyovers are



Hard Wearing Gaskets



**Flush Floor Junction Box
Exploded View -**



Flurplan® Flushfloor Trunking Systems

manufactured from sheet steel, and allow changes in direction whilst maintaining orientation of the cables. The top of the flyovers serve to support the cover of the junction box when impinged with dynamic and static loads. Rubber gaskets fixed on the flyovers prevent noise transmission and ensure a perfect fit.

Vertical Drop Down Boxes

Vertical Drop Down Boxes facilitate the transition from the vertical plane to the horizontal flush floor trunking. The Vertical Drop Down Boxes have a removable front cover that can be taken off to access cables. These cables are then threaded into the flushfloor trunking containment. The Vertical Drop Down boxes are recessed into the wall cavity, and can be covered with an acrylic sheet once the wiring is complete, and at the finishing stages. The depth of the Vertical Drop Down Boxes is at least 50mm, so that it can accommodate trunkings of 50mm depth with ease.

Couplers And Ancillary Units

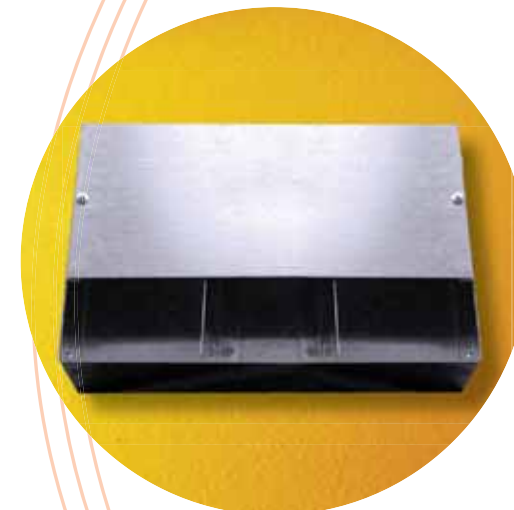
Couplers are used to join two lengths of flushfloor trunking together. The Couplers are made from sheet steel and have U slots in vertical and horizontal directions. This gives flexibility while fixing the straight lengths together. Care must however be taken to ensure a hairline gap between the two straight lengths.

Couplers have a fixing on the horizontal plane that ensures that the trunking stays firmly fixed to the green screed when the casting screed is poured. This will be especially of use in situations where the force of the screed pump is high, and as a result, the net impact on the trunking will be significant enough to shift the trunking. If the trunking is not secured to the green screed, the resultant impact will misalign the trunking layout and result in greater issues.

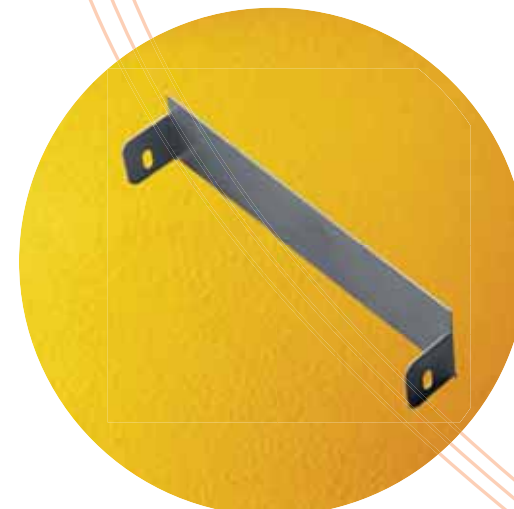
Couplers provide earth continuity along the run of the trunking. BS requirements call for trunking to be electrically continuous. Additional copper links are not required as long as the installation is carried out in line with established norms.



Alutrim Flush Floor Service Module



Vertical Drop Down Box



Stop Ends



Flurplan® Flushfloor Trunking Systems

INSTALLATION BEST PRACTICES

The flushfloor system involves the fixing of trunking and junction boxes on leveled concrete. As there are civil works involved, coordination between the floor system installer and the civil contractor can ensure a good finish for the client.

A further coordination with the local Cupra Offices or the distributor will ensure that any possible installation issues are overcome. Solutions can be found for complex site conditions that may normally not be available or known to the installer/contractor.

Once the system is designed, and the cable capacity proven, the installation can commence according to the route as laid down in the approved shop drawings.

The final finished level is determined from the engineer. Accordingly a screed bed is laid or the concrete is chipped to ensure that the final level of the floor box is in line with the FFL agreed. As far as possible, cutting the trunking is avoided to maintain integrity and prevent onsite modification. As the screw threads are machine cut by a form tapping process, the same cannot be replicated on site. Onsite cutting and modification is therefore best avoided. If onsite cutting is required, care should be taken to cut away from threaded fixing centers. Precautions should be taken to file cut edges and a coating of zinc rich paint should be applied.

The installation commences at the vertical drop down box. The trunkings are connected to the vertical drop down box. When junctions are present, junction boxes are used to achieve a change in direction. The side blanks of the junction boxes are removed, and the trunking holes are aligned to the junction box fixing centres. The trunking is secured to the junction box. Couplers that serve as fixing clamps are used to secure the trunking to the ground. The entire trunking system is anchored securely to the ground and the level checked. The trunking top is covered with PVC film to protect the trunking against the ingress of screed. The edges of the film are taped onto the trunking, and the Once this is ensured, the screed is poured to the flush level of the trunking.

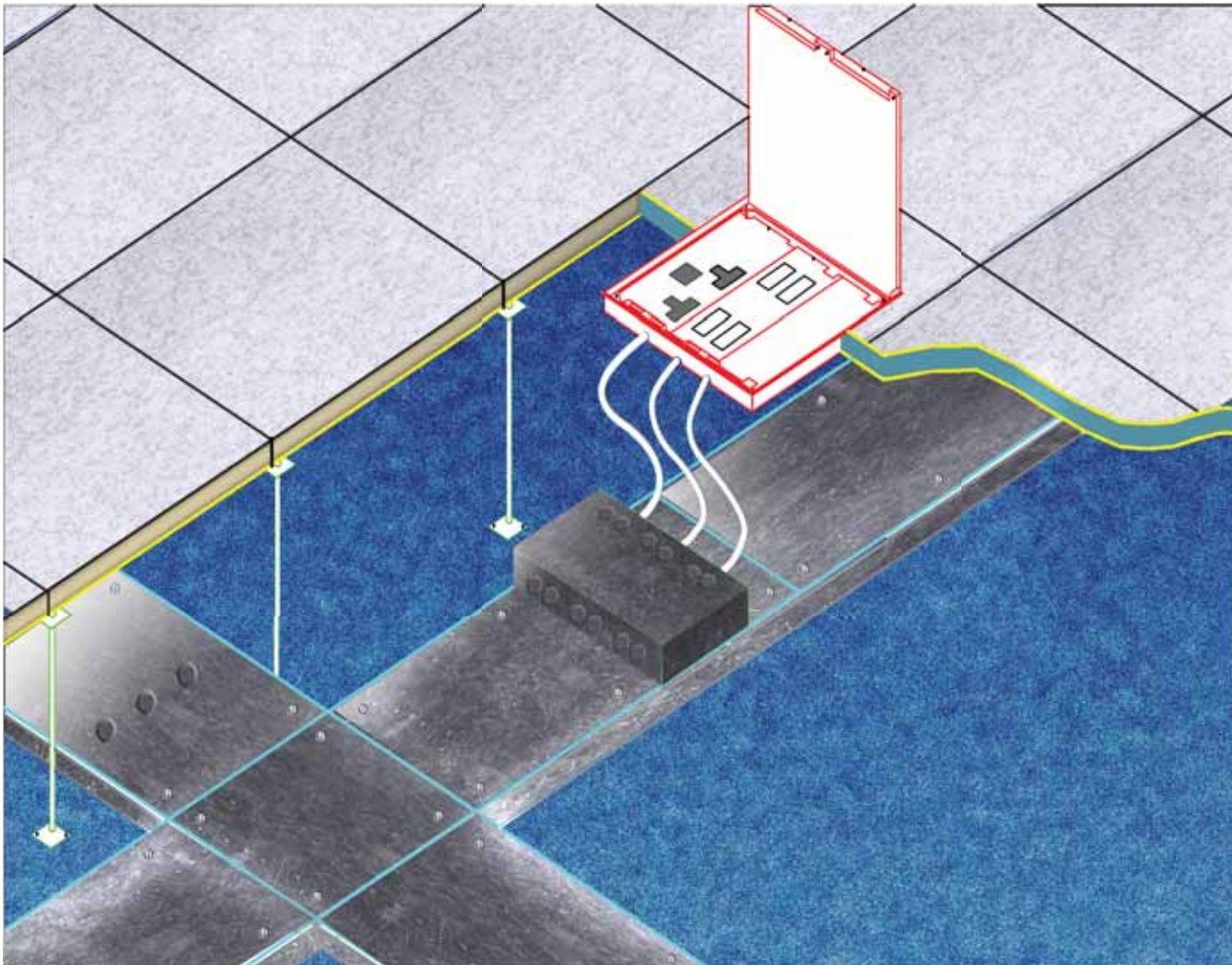
Once the screed dries, the PVC film is taken off and the trunking covers are removed. The insides of the trunking are cleaned thoroughly, and air is forced into the system to prevent varying humidity levels.

The trunking covers are removed at the positions where service outlet boxes are to be fitted, and the wires drawn within the containment. Care should be taken to allow enough slack wire within the containment. This will permit relocation of the flushfloor service outlet boxes along the run of the trunking.





Flurplan® Raised Floor Trunking Systems



Modern day offices are dynamic. Locations of workstations change with an increase in the number of personnel. This is due to increasing numbers of people being cramped into smaller areas, and an increased need to economize spaces within offices.

Conventional ducted air conditioning beneath false floors increases the efficiency of the overall cooling/heating system. Energy is saved as a result of this method of temperature control, as this follows the concept that hot air is lighter and tends to rise faster. These are just a few reasons why an increased number of installations tend to opt for raised floor solutions as opposed to conventional screeded solutions.

Raised floors are available in various versions such as wood core, cementitious, chip board, calcium sulphate panels, and hollow steel panels. The top surface finishes include HPL, bare, vinyl coated and special carpeted finishes.

Raised floor clearances are determined by the overall height of the building. The average clearance in office buildings is between 2.5m and 3.0m. When raised flooring is used, the average height of the overall building goes



Flurplan® Raised Floor Trunking Systems

up for the same number of floors, assuming that the clearance within floors is maintained.

For the same number of floors, the foundation for the building employing raised flooring will be deeper. This is on account of the increased height of the building.

Raised floor trunking depths can vary depending on the clearance between the raised floor and the slab. Average raised floors are generally about 150-200mm deep unless the raised floor void is to be used for other services such as drainage, plumbing, and for moving cables for various other services.

In the Flurplan® Raised Floor Trunkings, the raised floor trunking will have to be mounted within a clear of at least 70mm above the trunking, if the top mounted take off points are to be used. If side mounted take off points are selected, the raised floor trunkings can be mounted within voids that have a minimum of 10mm clear between the top of the raised floor trunking and the underside of the raised flooring.

A raised floor trunking system is a fully flexible floor trunking system, where the angle of flexibility is 360 degrees. Unlike the inscreed ducting and flushfloor trunking systems, the raised floor boxes can be relocated anywhere on the raised floor as there is no linkage between the raised floor trunking and the boxes apart from the interconnecting flexible conduit.

The layout of the raised floor trunking can be either the comb or fishbone pattern. The required level of flexibility seen in a grid system can be achieved by using longer flexible conduits. The average length of the flexible conduit used is 1.5m. Increased lengths will ensure greater flexibility in relocating floor boxes within raised floors.

Partition Layout

In raised floor trunking systems, the partition layout does not have a bearing on the layout of the raised floor trunking. The raised floor trunking is run in the cavity beneath the raised flooring, and is independent of the layout on the surface above it. The partitions do not therefore have a bearing on the layout of the trunking.

However, the final position of the boxes is determined on the basis of the partition layout. Service outlet boxes are fixed in areas where access to power and data points is essential. If the length of the flexible lead is long, the boxes can be serviced from





Flurplan® Raised Floor Trunking Systems

distant locations. The inconvenience in extremely lengthy flexible leads has to be taken into consideration here.

Final Finishes

Raised floors are available in bare, carpeted, vinyl and HPL finishes. In situations where bare panels are used, carpets or carpet tiles are fixed onto bare panels as the final finish. The floor boxes could be mounted with clamps above or beneath the raised floor panel, depending on the finish and accepted methodology of fixing adopted.

Additionally, if deeper carpet tiles or carpets with larger backings are used, the position of fixing of the clamps on the box could be repositioned to accommodate such final finishes.

The cable capacity/no of users

Knowledge of the number of users will help in finalising the depth and the selection of the trunking. The trunking compartments (single or multiple) will also be decided based on the number of cables that have been drawn within the containment, and the usage of local area networking etc.

As the number of users increases, the number of cables will increase. The wiring is carried out using the principles laid down by the IEE wiring regulations. The width of the trunking can be maximum of 450mm, if a standard 600x600 tile layout is used for the raised floor. The height can change depending on the cables required to be contained, and the available clearance beneath the raised flooring.

Flexibility and Layouts

In projects involving raised floor trunking, the boxes can be relocated within the raised flooring to the extent of the length of the flexible conduit. The flexibility offered by a raised floor trunking system is 360 degrees.

The layout beneath the raised floor is therefore irrelevant, as long as cabling can be carried out within norms specified by the relevant IEE regulations.

Budgets

The raised floor trunking is economically priced, as there are no direct load-bearing components. The trunking is manufactured from 1.0mm/1.2mm sheet steel. This is thereafter epoxy coated, if required, to differentiate the containment when placed on the



Carpet Finishes



Raised Flooring Options





Flurplan® Raised Floor Trunking Systems

concrete slab. Further economic versions such as a closed central compartment, and the use of pregalvanised sheet steel will also help functionally deliver objectives, while keeping costs to a minimum.

However, the cost of raised flooring will be higher than that of a screeded floor from a project cost perspective. The decision has to be taken after considering the cost/benefit of using a raised floor and raised floor trunking versus a standard screeded system.

Building Shapes

The shape of a building can impact the costs of a raised flooring installation. However, the costs of a raised floor trunking system are unlikely to be affected by building shapes. This is because the trunking is mounted beneath the raised floor. The trunking can be mounted remotely, and the boxes fed by flexible leads from a distance.

Loading and Load Capability

Raised floor Service Outlet Boxes are the only load bearing components in a raised floor trunking installation. The boxes are to be correctly mounted on the raised floor to prevent caving in under dynamic or static load conditions. There are various modes of fixing boxes, like top flange, and bottom flange options. The appropriate fixing scheme will have to be adopted to be in line with site requirements and in line with expected load requirements under static and dynamic load conditions.





Flurplan® Raised Floor Trunking Systems

THE COMPONENTS

The Flurplan® Raised Floor Trunking System comprises the following components.

Raised Floor Trunking Straight Lengths
Service Outlet Boxes
Junction Boxes
Vertical Drop Down Boxes

Raised Floor Trunking Straight Lengths

The Flurplan® Raised Floor Trunking Straight lengths are manufactured from electrogalvanised sheet steel. The trunking covers are secured to the body using self tapping screws. The usage of self tapping screws is recommended as this facilitates earth continuity of the covers to the body.

The Raised Floor Trunking is not a load bearing component. The trunking covers and body are manufactured from 1.0mm sheet steel. The height of the raised floor trunking is limited by the clearance beneath the raised flooring. Additionally, the space and mode of fixation of flexible conduit adaptors is to be taken into consideration to determine the height of the raised floor trunking.

The trunking width can be a maximum of 450mm when used in conjunction with a 600x600mm raised flooring grid. In such a situation, the spacing between pedestals is roughly 500mm. Allowing for space to fix the trunkings, the allowable space between pedestals is 450mm.

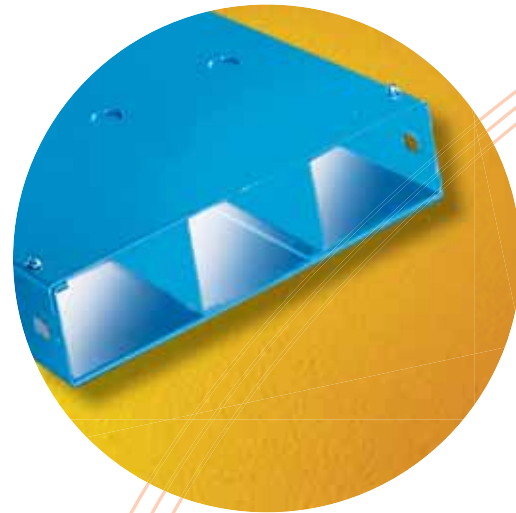
The partitions are welded to the base. The trunking is then epoxy coated to required colours.

The trunking can be supplied in pregalvanised trunking as well. In this case, the partition bases that are welded to the body of the trunking are touched up at the welded points with zinc rich paint.

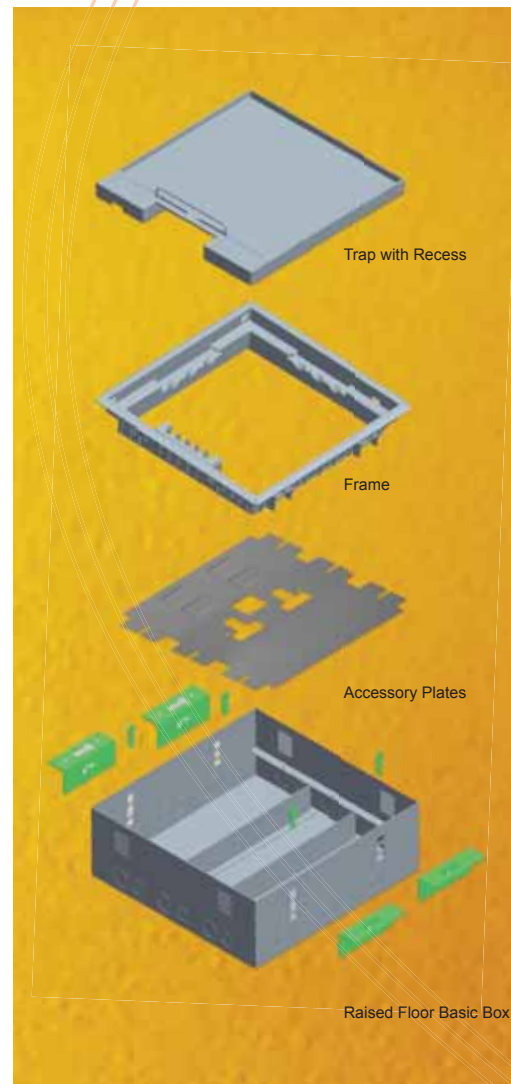
The trunking covers have knock outs to accept flexible conduit adaptors. These adaptors are fitted to flexible conduits that contain the wires that feed the floor boxes fixed to the raised flooring.

In certain situations, shallow raised flooring is used. The narrow spacing does not permit fixing of flexible conduit adaptors on covers. In such cases, the partitions and the trunking body are punched to enable fixing of adaptors. The adaptors are side mounted on trunkings, and enable the containment of services to raised floor service outlet boxes fixed to the raised flooring.

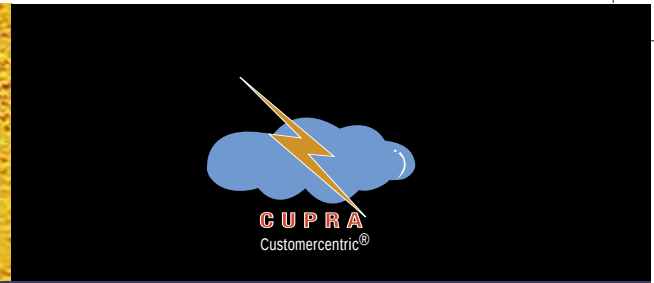
Side knockouts are punched on the body on request.



Epoxy Coated Raised Floor Trunking



**Tetrus Raised Floor Service Outlet Box
Exploded View-**



Flurplan® Raised Floor Trunking Systems

Service Outlet Boxes

The Flurplan® Raised Floor Service Outlet Boxes are available in both Tetrus® and Alutrim® Versions. The Tetrus and Alutrim concepts such as four directional box exit, easy relocation, simple fixing schemes, and universal accessory plates are seen in the raised floor boxes.

All Flurplan® Raised Floor Outlet Boxes have 20mm/25mm knockouts on all sides. This facilitates termination of flexible conduits on all sides of the floor box.

The outer flanges of both versions support the boxes when fixed to the raised flooring. The boxes are fixed to the raised flooring using fixing clamps. The fixing clamps are fixed either on the top or beneath the raised flooring. The choice of fixing is determined once the final finishes on the raised floor are known. If bare panels are used, service outlet boxes are fixed using top fixing clamp methods. However, if HPL panels or pre-finished tiles are used, it is not possible to fix the floor boxes using the top fixing clamp scheme. In such cases, the boxes are fixed on the under side of the raised floor panel.

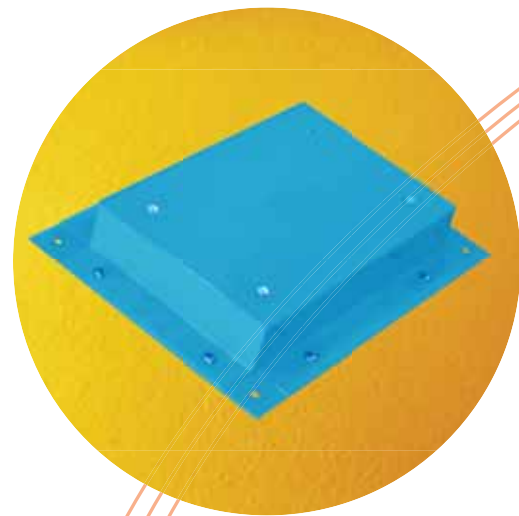
As in the other floor trunking schemes, the boxes have service plates that are fixed into the boxes. These provide access to services to end users. Service plates are punched to accept wiring devices.

Junction Boxes

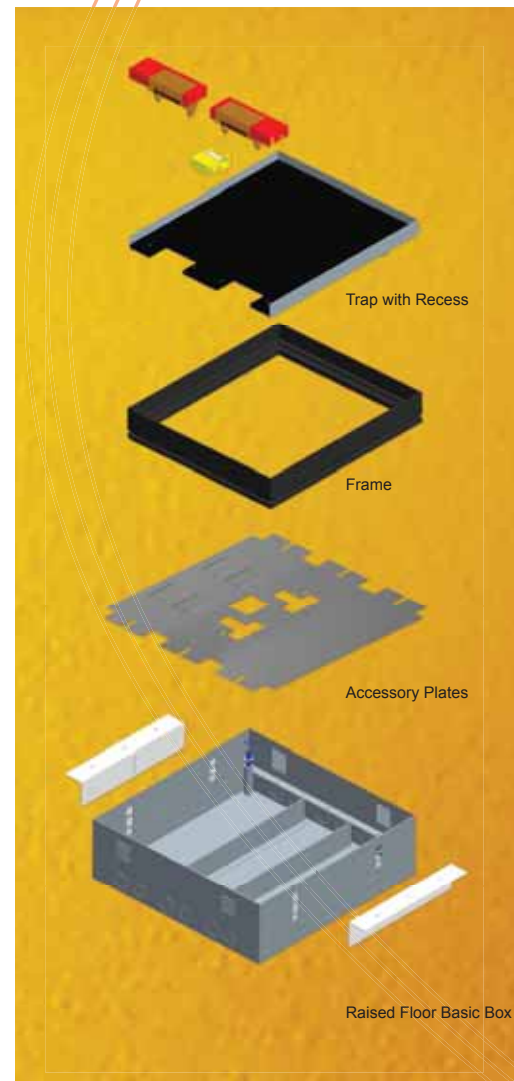
Universal Junction Boxes are of the same height as the trunking. The Junction Boxes are fixed to the trunking body using the fixing centres of the side blanks. The boxes are universal, and can be adapted to form angle, tee and cross junctions. The required side blanks are removed to achieve the right configuration.

The junction box cover is secured at the four corners, into aluminium pillars. The boxes are flush level with the trunking. The entire junction box is manufactured from 1.0mm sheet steel. The flyovers are manufactured from metal and are welded units. As the junction boxes are non-load bearing components, the thickness of the metal is sufficient to prevent vermin attacks.

The junction boxes and trunkings can be placed directly on the ground or secured to the ground using screws and fixings. The chances of movement of the system are remote; it is not



Epoxy Coated Raised Floor Junction Box



Alutrim Raised Floor Service Outlet Box Exploded View -



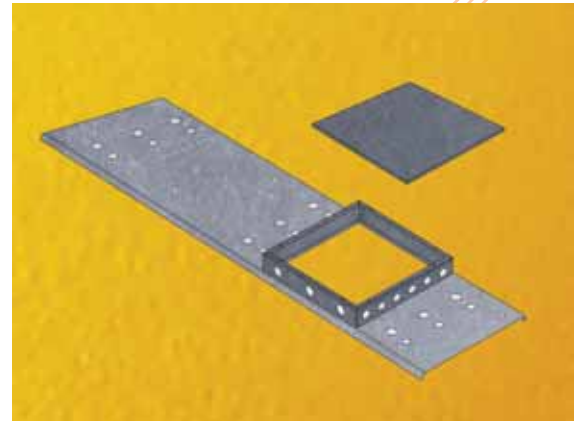
Flurplan® Raised Floor Trunking Systems

necessary to secure the system to the ground.

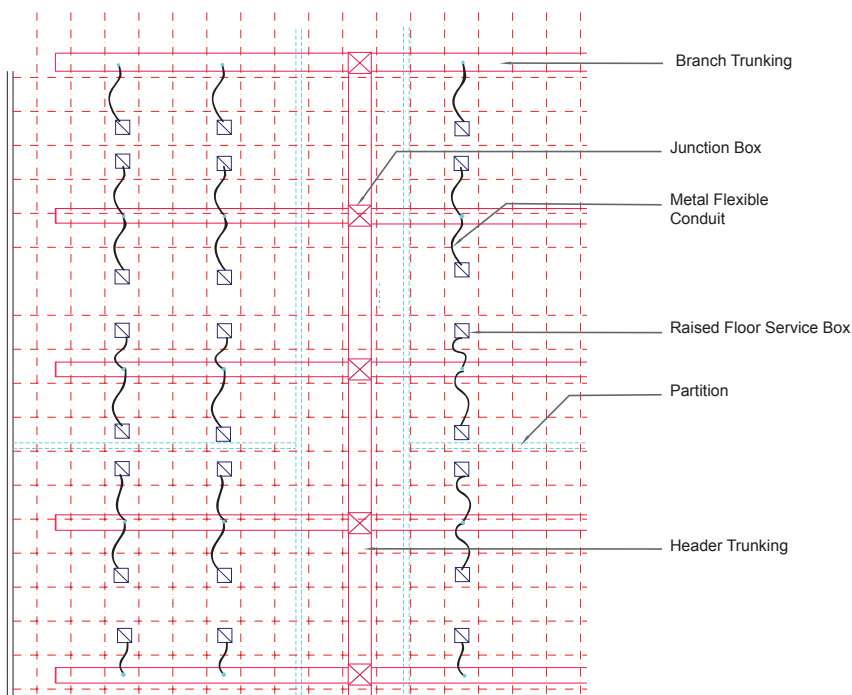
Vertical Drop Down Boxes

Vertical Drop Down Boxes are used to transfer services from the vertical plane to the horizontal plane. Vertical boxes are manufactured from pregalvanised sheet steel as a standard. The vertical boxes have a front plate that can be removed to access the wires that are dropped down from conduits or trunkings on the vertical plane. After the wires are pulled out from the vertical plane, these are threaded into the trunkings on the horizontal plane.

For consistency in quality and service, we recommend the usage of Piper® Metal Flexible Conduits and fittings from CUPRA.



Raised Floor Trunking Tapoff Unit



Typical Raised Floor Trunking Layout



Alutrim Raised Floor Service Outlet Box



Flurplan® Raised Floor Trunking Systems

INSTALLATION BEST PRACTICES

All installations have to be properly coordinated between civil, electrical and the raised flooring installers. Proper coordination will ensure that a comprehensive and complete installation is delivered to the end-user.

A raised flooring installation commences with a painted concrete floor. Painting the floor binds the concrete together and prevents any loose shards from damaging the trunking and the raised flooring installation in general.

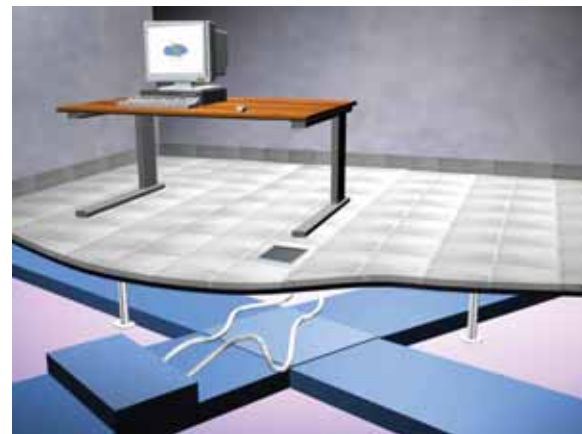
The raised floor panels are placed along known grid lines that are marked on the painted floor. The levels are adjusted in line with the finished floor level provided by the Civil contractor. Once the pedestals are placed in position these are glued to the concrete by appropriate means.

The trunkings are fixed in areas between the pedestals. It is not necessary to secure the trunkings to the concrete as they don't shift. The trunkings are placed in line with drawings approved by the engineer. Changes in direction are achieved using junction boxes.

Trunkings are interconnected using couplers that also serve to ensure electrical continuity. Additional copper earth links may also be used to ensure even better continuity between trunking runs and junction boxes, if desired.

After the trunkings are installed, the box locations are marked on the raised flooring and cutouts are made in accordance with the potential final position known. The raised floor boxes are fixed to the raised flooring using clamps and fixings provided.

The average floor box density within a raised flooring layout is 4m². The configuration within the floor box is dictated by the number of workstations that are fed by the service outlet box.



The floor boxes are fed from the trunking using flexible conduits. These conduits are fixed to knockouts that are provided on the trunking covers. Adaptors supplied by the manufacturer are used to ensure a proper and complete fix.

The length of the flexible conduit should be sufficient to allow relocation of the floor box within the raised flooring layout.

The wires are threaded in the trunkings, in line with known and established British Standards, and in line with IEE wiring regulations. The wires are terminated in the floor box accessories.

Allure

INTRODUCTION

Allure is the latest addition to the Flurplan Floor distribution System offering from Cupra. The range features sturdy and high gloss finish floor boxes that find application in high end installations. The boxes can be adapted in floor installations (inscreed and raised floor) and in table top applications.

There are two offerings in the Allure Product Group.

ROTUN

Rotun is a round box, designed with the discerning end user in mind. The trap features a self design Aluminium Alloy with a collapsible central lifting shaft. The range is ingress protected to IP 55 in closed condition. The boxes have a waterproof gasket to prevent water seepage when closed.

The Rotun frame and trap are aesthetically designed in a pattern of concentric rings. The design blends within a screeded or a raised floor. The attractive finish provides an effective and elegant alternative to conventional rectangular or square floor service outlet solutions.

Service accessory plates are available in a single combined version or as individual units to suit the requirements of the customer. Services are wired into the floor boxes using knockouts and conduit entry. The boxes can be adapted to take ducts in the event of greater cable capacity.

The trap has a cable exit grommet with additional gasket to ensure ingress protection. The box frame can be adjusted independent of the base to take into account changes in height and uneven floor finishes.

The boxes have a failure load rating of 10kN making it a ideal solution for dynamic offices and high load rating areas.

As with the other product offerings from Cupra, it is feasible to customise accessory plates to take various end user requirements

Applications of Rotun

In shopping malls and wet washed areas, it becomes imperative to provide floor boxes that can take loads while at the same time merge with high end aesthetic finishes. In such situations, the Rotun boxes can provide an effective solution. With a high

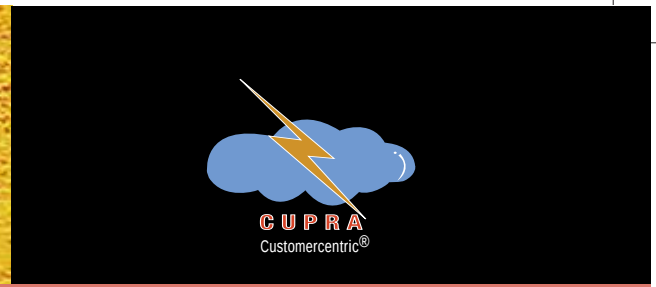


Insided View of Rotun Box



Concentric Rings of Rotun Frame





Allure

superior finish and load rating, the floor boxes can be used in high traffic wet washed areas such as granite and marble , providing the required IP rating while also rendering an aesthetic finish.

In raised flooring installations, the application of Rotun is seen when an attractive alternative to regular square and rectangular boxes is sought. Additional applications include the need for increased space within the service outlet box to accommodate bulky wiring devices.

POP

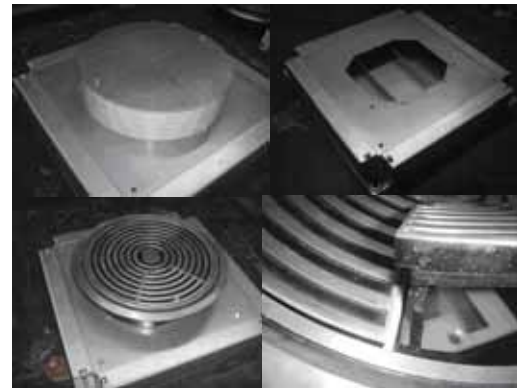
In modern day offices, there is an increasing need to provide services on table tops. These services could be data outlets, a single power outlet to feed a lap top, or similar applications. In such situations, the Pop boxes can provide a simple yet effective alternative.

Pop is available in various configurations. Please contact your distributor for for the details.

Applications of Pop

The Pop boxes can be mounted on table tops or within screeded floors. The box has a spring release mechanism, that opens up the floor box and reveals the sockets within.

Within Pop, a two compartment configuration can be achieved. The service plates have a monobloc design, with both services being fed from a single plate.



Exploded View



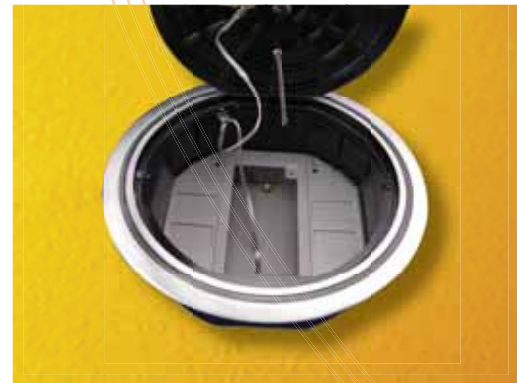
Concentric Rings of Rotun Frame



The Pop Box configuration 1



The Pop Box





INGRESSOR

Water Proof Floor Box Solutions



With the increased use of stone finishes in new build, the requirement for weather proof floor boxes has seen a growing demand. Customers are facing situations where floor boxes have to be mounted within tile or stone, in water wash conditions.

Under such circumstances, it has become imperative to ensure that floor boxes have the capability to withstand ingress of water.

Flurplan Floor distribution Systems from Cupra are proud to present Ingressor, a comprehensive range of IP floor boxes that are rated to **IP 56**, making it the first and only product in the world to be watertight IN OPERATION.

The Ingressor range features a durable grommet, secured to the floor box, with an overflow facility. The grommets are manufactured from a highly absorbent material that prevents water seepage and dust into the floor box.

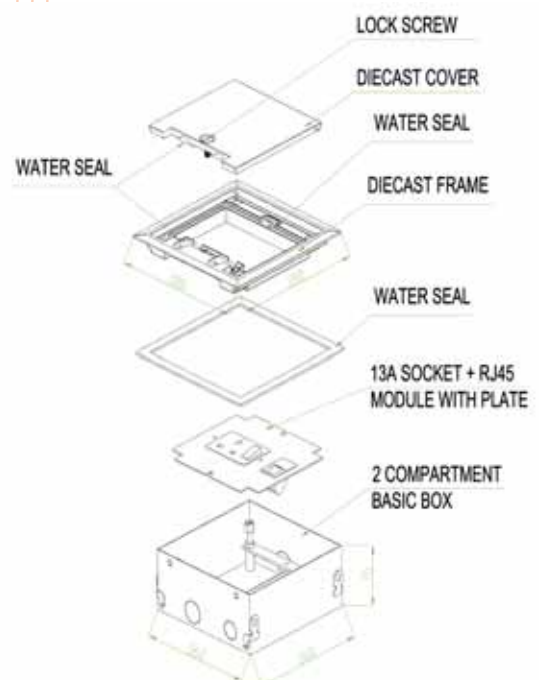
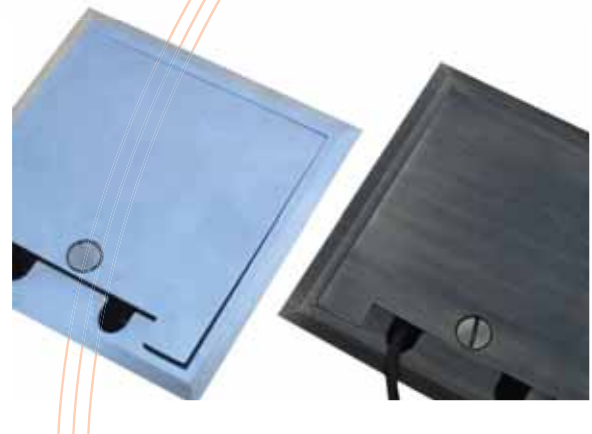
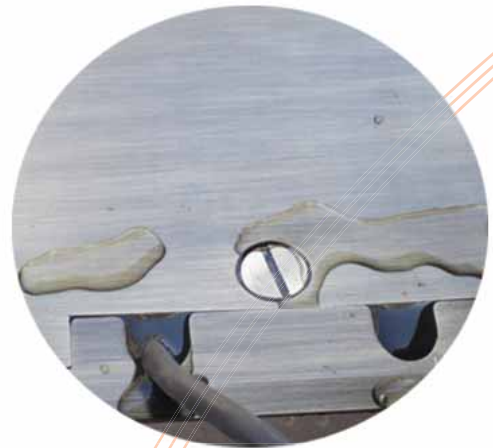
The Ingressor range Floor Box traps are manufactured from Die cast components and thereafter electroplated to the various finishes. The floor box can accommodate a single socket and a twin communication outlet.

Alternately, the floor box can accommodate a twin 13A switch socket outlets should the need arise.

In order to operate the floor box, a flat head screw driver is used to open and securely close the floor box. Once the floor box is opened and the outlet plugged in, the lid can be closed to ensure a water tight floor box giving the end user an IP 56 Ingress Protection performance.

The range is available in two standard colours - Matt Silver & Antique Bronze/Brass.

- Only box in the world that is **IP 56 in operation**
- Standard Finishes of Antique Bronze/Matt Silver
- Two compartment Options to accommodate Power/Telecom
- Compact and attractive.





INGRESSOR

Water Proof Floor Box Solutions



The Ingressor range is rated to take a static load of upto 8kN. Dynamic load rating of the floor box is even higher at close to 9kN, at which point failure occurs.

The drain facility within the floor frame is in line with compliance to IP 56 requirements (IEC 60529- at least 3 minutes).

For those customers desirous of 3 compartment solutions, the **Ingressor Triad** is available. The Triad features the unbeatable IP 56 frame and trap arrangement fitted onto a 3 compartment floor box, with the facility to fix a tile to match with the architectural finishes.

The **Ingressor Triad** is available in 250x250 sizes, with the final frame and trap of the same size as Ingressor. The **Ingressor Triad** can accommodate tiles from 8mm to 15mm in depth.

Conventional standard plates can be fitted within the Ingressor Triad floor box.

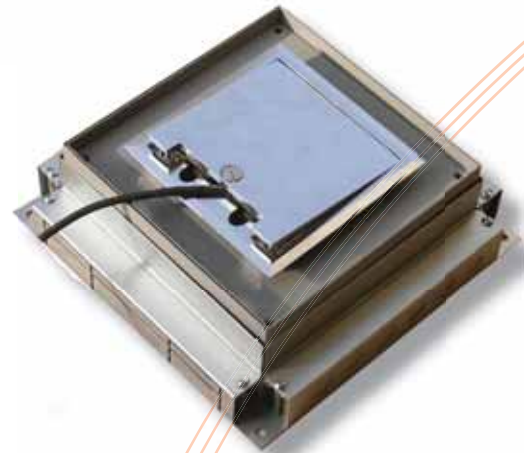
The **Ingressor Triad** Floor Box is available in Antique Bronze and Matt Silver finishes.

For those desirous of a higher IP rating, we are proud to present to you **Ingressor Totaplus**. The Ingressor Totaplus is rated to IP 66, thereby ensuring a high level of waterproof protection.

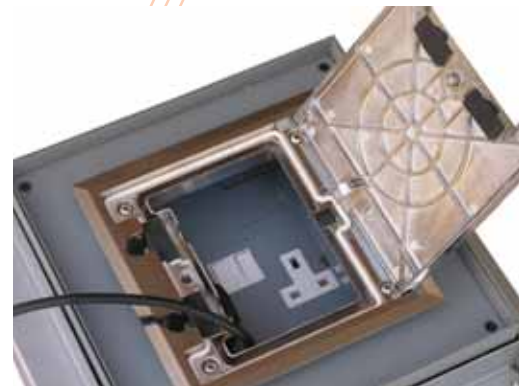
However **Ingressor Totaplus** is IP 66 in closed condition. In operation, the product loses its IP rating.

Ingressor Totaplus is manufactured from Stainless Steel. The trap is opened out by turning in an anticlockwise direction to expose the interiors of the floor box.

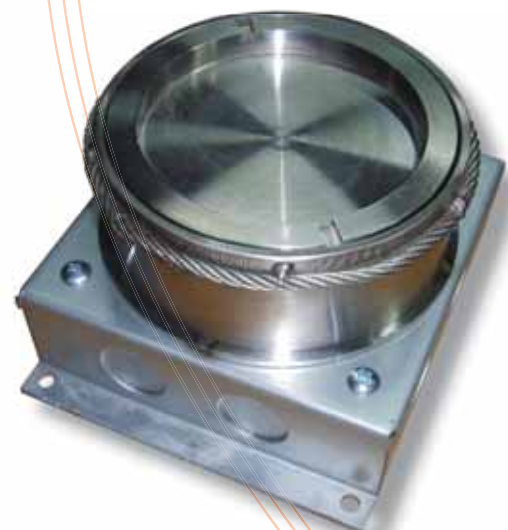
The range is capable of taking a load of upto 10kN and finds application in external or internal areas for temporary supply of power and data services, where there is a likelihood of flooding.



Perspective of **Ingressor Triad**



Inside view of **Ingressor Triad**



Perspective of **Ingressor Totaplus**



OTHER SOLUTIONS

The Flurplan features floor boxes in various other sizes and finishes. The floor boxes can be manufactured in Stainless Steel, unequal compartments and various plate configurations.

The boxes can be adapted for use within screed or raised floors. Boxes are available with recess, or flush with the finished floor. Single and multicompartment options are available.

Cupra can provide solutions for mounting floor box within shallow screeds as low as 50mm.

Cupra believe in the philosophy of closed looped communication. We pride ourselves on listening to customer needs, and satisfying those needs.

We are Cupra. Customercentric.





Flurplan® Accessories

Wiring Devices

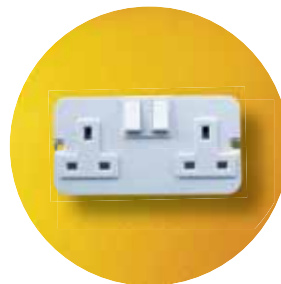
The wiring devices that are supplied as an integral part of the Cupra Flurplan® Floor Distribution System are manufactured to exacting standards. All twin switch sockets are twin earthed and double pole switched. DP switching ensures that neutral makes first and breaks last. The shutters are earth loaded.

Switch sockets are manufactured to BS 1363, Part 2, 1995. The twin earth feature is compliant with the requirements of Section 607 of BS 7671, IEE Wiring Regulations.

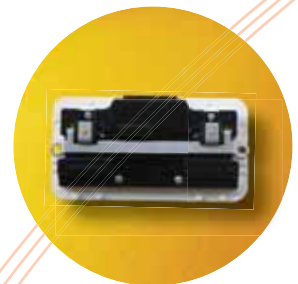
All electrical sockets come with a 10 year performance guarantee against manufacturing defects.

UPS sockets are supplied with red rockers to distinguish them from standard sockets. Cupra does not supply sockets that are with non-standard earth pins to ensure consistency in supply and also to ensure continuity of warranty and protection from equipment suppliers.

Cupra can supply faceplates and jacks for Cat 6 LAN connections. It is recommended to use angled outlets to terminate jacks. This prevents stress on the cables and ensures compliance to Cat 6 standards with the bend radius falling within 50mm as stated in the standards.



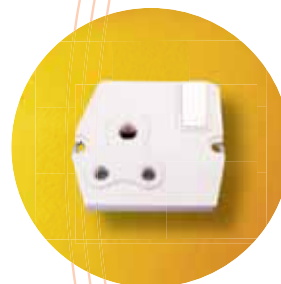
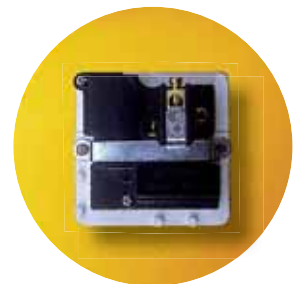
*13A Twin Switch Socket Outlet
Panel Mounted*



Twin Earth Terminals



*13A Single Switch Socket Outlet
Panel Mounted*



*5A Single Switch Socket Outlet
Panel Mounted*



*15A Single Switch Socket Outlet
Panel Mounted*





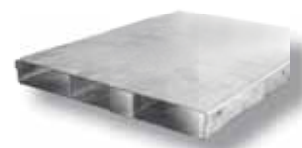
Flurplan® Catalogue Numbers

INSCREED DUCTING SYSTEM

Metal Ducts

Dimension	1 Compartment	2 Compartment	3 Compartment	4 Compartment	Duct Couplers / Fixing Clip
50x25	CFPMD21-1*				CFPMD21DC
75x25	CFPMD31-1*				CFPMD31DC
150x25	CFPMD61-1*	CFPMD61-2*			CFPMD61DC
225x25		CFPMD91-2*	CFPMD91-3*		CFPMD91DC
275x25		CFPMD111-2*	CFPMD111-3*		CFPMD111DC
300x25		CFPMD121-2*	CFPMD121-3*		CFPMD121DC
350x25		CFPMD141-2*	CFPMD141-3*	CFPMD141-4*	CFPMD141DC
425x25			CFPMD171-3*	CFPMD171-4*	CFPMD171DC

Dimension	1 Compartment	2 Compartment	3 Compartment	4 Compartment	Duct Couplers / Fixing Clip
50x38	CFPMD215-1*				CFPMD215DC
75x38	CFPMD315-1*				CFPMD315DC
150x38	CFPMD615-1*	CFPMD615-2*			CFPMD615DC
225x38		CFPMD915-2*	CFPMD915-3*		CFPMD915DC
275x38		CFPMD1115-2*	CFPMD1115-3*		CFPMD1115DC
300x38		CFPMD1215-2*	CFPMD1215-3*		CFPMD1215DC
350x38		CFPMD1415-2*	CFPMD1415-3*	CFPMD1415-4*	CFPMD1415DC
425x38			CFPMD1715-3*	CFPMD1715-4*	CFPMD1715DC



All ducts upto 225mm span are manufactured with a thickness of 1.2mm for the cover and 1.0mm base as a standard.

All ducts beyond 225mm and upto 350mm span are manufactured with a thickness of 1.52mm for the cover and 1.0mm base as a standard. Replace DC with FC for ordering Fixing Clips.

When a 350mm span duct is chosen, the cover is manufactured from 2.0mm sheet steel cover while the base is manufacture from 1.52mm sheet steel.

Replace * with E to order Economy Ducts (Taped U channels).

For different thickness suffix with thickness. For example, to order a 2 compartment 150 x 25mm ducting with 1.52mm cover and base, the part number will read CFPMD61-2C2B2.

To order a 3 Compartment 275 x 38mm duct with 1.52mm cover and 1.52mm base, the part number will read CFPMD1115-3C2B2.

uPVC Ducts

Dimension	Compartment 1	Duct Couplers
50x25	CFPPD21-1	CFPPD21DC
75x25	CFPPD31-1	CFPPD31DC
90x38	CFPPD361-1	CFPPD361DC

Other Accessories

Duct Width	Vertical Drop Down Box	Stop ends
50	CFPIVB2*C	CFPISE2
75	CFPIVB3*C	CFPISE3
90	CFPIVB36*C	CFPISE36
150	CFPIVB6*C	CFPISE6
225	CFPIVB9*C	CFPISE9
275	CFPIVB11*C	CFPISE11
300	CFPIVB12*C	CFPISE12
350	CFPIVB14*C	CFPISE14
425	CFPIVB17*C	CFPISE17



For Vertical Drop Down Boxes, replace * with number of compartments while ordering

Ducting Codes	
Detail	Code
1.0mm	1
1.52/1.6mm	2
2.0mm	3
Cover	C
Base	B
Economy	E

Flurplan® Catalogue Numbers

INSCREED DUCTING SYSTEM

Standard Service Outlet Boxes

	Dimension	Tetrus	Alutrim	Deep
1 compartment	125 x 125		CFPIASB125-0H	CFPIDSB125-0H*
1 compartment	125 x 250		CFPIASB125-1H	CFPIDSB125-1H*
2 compartment	125 x 250		CFPIASB125-2H	CFPIDSB125-2H*
2 compartment	250 x 250	CFPITSB250-2H	CFPIASB250-2H	CFPIDSB250-2H*
3 compartment	250 x 250	CFPITSB250-3H	CFPIASB250-3H	CFPIDSB250-3H*
3 compartment	300 x 300		CFPIASB300-3H	CFPIDSB300-3H*
3 compartment	325 x 325		CFPIASB325-3H	CFPIDSB325-3H*
3 compartment	375 x 250		CFPIASB375-3H	CFPIDSB375-3H*
3 compartment	376 x 225	CFPITSB376-3H#		
4 compartment	376 x 225	CFPITSB376-4H#		CFPIDSB376-4H*
4 compartment	375 x 250		CFPIASB375-4H	CFPIDSB375-4H*

Standard service outlet boxes supplied complete with disposable lid, accessory plates and one 13 A Twin Switch Socket Outlet. Standard depth of Tetrus and Alutrim boxes is 75-90mm adjustable. Other depths include 90-105mm & 105-120mm. Slim profile Alutrim boxes are possible starting with a depth of 55mm. For non-standard depths, please replace H with required dimensions.

The frame in these boxes in the Tetrus range of boxes cannot be relocated to allow cable exit in all four directions.

DEEP Service Boxes are supplied with a standard recess of 12mm. For other recess depths, replace * with depth required.

Replace D with SS for Stainless Steel without trim, and with AS for stainless steel with trim, and B for Brass without trim.

Replace ◊ with N for boxes without recess.

Standard Junction Boxes

	Dimension	Tetrus	Alutrim	Deep
1 compartment	125 x 125		CFPIAJB125-0H	CFPIDJB125-0H*
1 compartment	125 x 250		CFPIAJB125-1H	CFPIDJB125-1H*
2 compartment	125 x 250		CFPIAJB125-2H	CFPIDJB125-2H*
2 compartment	250 x 250	CFPITJB250-2H	CFPIAJB250-2H	CFPIDJB250-2H*
3 compartment	250 x 250	CFPITJB250-3H ^Δ	CFPIAJB250-3H ^Δ	CFPIDJB250-3H* ^Δ
3 compartment	300 x 300		CFPIAJB300-3H	CFPIDJB300-3H*
3 compartment	325 x 325		CFPIAJB325-3H	CFPIDJB325-3H*
3 compartment	375 x 250		CFPIAJB375-3H	CFPIDJB375-3H*
3 compartment	375 x 375		CFPIAJB375S-3H	CFPIDJB375S-3H*
4 compartment	375 x 250		CFPIAJB375-4H	CFPIDJB375-4H*
4 compartment	375 x 375		CFPIAJB375S-4H	CFPIDJB375S-4H*
4 compartment	450 x 450		CFPIAJB450-4H	CFPIDJB450-4H*

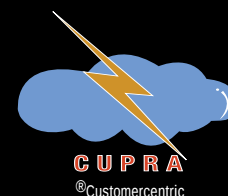
Standard Junction Boxes are supplied complete with disposable lid and flyovers.

To order plastic flyovers replace Δ with P.

DEEP Junction Boxes are supplied with a standard recess of 12mm. For other recess depths, replace * with depth required.

Standard Service Outlet Boxes Spares - Screed Basic Units

	Dimension	Tetrus	Alutrim	Deep
1 compartment	125 x 125		CFPIASB125-0HBB	CFPIDSB125-0HBB
1 compartment	125 x 250		CFPIASB125-1HBB	CFPIDSB125-1HBB
2 compartment	125 x 250		CFPIASB125-2HBB	CFPIDSB125-2HBB
2 compartment	250 x 250	CFPITSB250-2HBB	CFPIASB250-2HBB	CFPIDSB250-2HBB
3 compartment	250 x 250	CFPITSB250-3HBB	CFPIASB250-3HBB	CFPIDSB250-3HBB
3 compartment	300 x 300		CFPIASB300-3HBB	CFPIDSB300-3HBB
3 compartment	325 x 325		CFPIASB325-3HBB	CFPIDSB325-3HBB
3 compartment	375 x 250		CFPIASB375-3HBB	CFPIDSB375-3HBB
3 compartment	376 x 225	CFPITSB376-3HBB		
4 compartment	376 x 225	CFPITSB376-4HBB		
4 compartment	375 x 250		CFPIASB375-4HBB	CFPIDSB375-4HBB

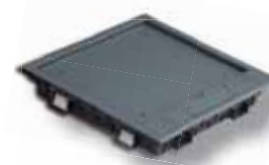


Flurplan® Catalogue Numbers

INSCREED DUCTING SYSTEM

Standard Service Outlet Boxes Spares - Frame and Trap

	Dimension	Tetrus	Alutrim	Deep
1 compartment	125 x 125		CFPIASB125-0FT	CFPIDSB125-0*FT
1 compartment	125 x 250		CFPIASB125-1FT	CFPIDSB125-1*FT
2 compartment	125 x 250		CFPIASB125-2FT	CFPIDSB125-2*FT
2 compartment	250 x 250	CFTPSB250-2FT	CFPIASB250-2FT	CFPIDSB250-2*FT
3 compartment	250 x 250	CFTPSB250-3FT	CFPIASB250-3FT	CFPIDSB250-3*FT
3 compartment	300 x 300		CFPIASB300-3FT	CFPIDSB300-3*FT
3 compartment	325 x 325		CFPIASB325-3FT	CFPIDSB325-3*FT
3 compartment	375 x 250		CFPIASB375-3FT	CFPIDSB375-3*FT
3 compartment	376 x 225	CFPITSB376-3FT		
4 compartment	376 x 225	CFPITSB376-4FT		
4 compartment	375 x 250		CFPIASB375-4FT	CFPIDSB375-4*FT



Standard Junction Boxes Spares - Screed Basic Units

	Dimension	Tetrus	Alutrim	Deep
1 compartment	125 x 125		CFPIAJB125-0HBB	CFPIDJB125-0H*BB
1 compartment	125 x 250		CFPIAJB125-1HBB	CFPIDJB125-1H*BB
2 compartment	125 x 250		CFPIAJB125-2HBB	CFPIDJB125-2H*BB
2 compartment	250 x 250	CFPITJB250-2HBB	CFPIAJB250-2HBB	CFPIDJB250-2H*BB
3 compartment	250 x 250	CFPITJB250-3HBB ^Δ	CFPIAJB250-3HBB ^Δ	CFPIDJB250-3H*BB ^Δ
3 compartment	300 x 300		CFPIAJB300-3HBB	CFPIDJB300-3H*BB
3 compartment	325 x 325		CFPIAJB325-3HBB	CFPIDJB325-3H*BB
3 compartment	375 x 250		CFPIAJB375-3HBB	CFPIDJB375-3H*BB
3 compartment	375 x 375		CFPIAJB375S-3HBB	CFPIDJB375S-3H*BB
4 compartment	375 x 250		CFPIAJB375-4HBB	CFPIDJB375-4H*BB
4 compartment	375 x 375		CFPIAJB375S-4HBB	CFPIDJB375S-4H*BB
4 compartment	450 x 450		CFPIAJB450-4HBB	CFPIDJB450-4H*BB



Standard Junction Boxes Spares - Frame and Trap

	Dimension	Tetrus	Alutrim	Deep
1 compartment	125 x 125		CFPIAJB125-0FT	CFPIDJB125-0*FT
1 compartment	125 x 250		CFPIAJB125-1FT	CFPIDJB125-1*FT
2 compartment	125 x 250		CFPIAJB125-2FT	CFPIDJB125-2*FT
2 compartment	250 x 250	CFPITJB250-2FT	CFPIAJB250-2FT	CFPIDJB250-2*FT
3 compartment	250 x 250	CFPITJB250-3FT	CFPIAJB250-3FT	CFPIDJB250-3*FT
3 compartment	300 x 300		CFPIAJB300-3FT	CFPIDJB300-3*FT
3 compartment	325 x 325		CFPIAJB325-3FT	CFPIDJB325-3*FT
3 compartment	375 x 250		CFPIAJB375-3FT	CFPIDJB375-3*FT
3 compartment	375 x 375		CFPIAJB375S-3FT	CFPIDJB375S-3*FT
4 compartment	375 x 250		CFPIAJB375-4FT	CFPIDJB375-4*FT
4 compartment	375 x 375		CFPIAJB375S-4FT	CFPIDJB375S-4*FT
4 compartment	450 x 450		CFPIAJB450-4FT	CFPIDJB450-4*FT



^ΔTo order plastic flyovers replace with P.



Flurplan® Catalogue Numbers

FLUSH FLOOR TRUNKING SYSTEMS

Straight lengths & Junction Box

Straight lengths supplied with couplers & related fixings

Dimension	Compartment	Straight Lengths	Junction Box
150 x 65	1	CFPFFM*626/1	CFPFFJB6/1
150 x 65	2	CFPFFM*626/2	CFPFFJB6/2
300 x 65	2	CFPFFM*1226/2	CFPFFJB12/2
300 x 65	3	CFPFFM*1226/3	CFPFFJB12/3
405 x 65	2	CFPFFM*1626/2	CFPFFJB16/2
405 x 65	3	CFPFFM*1626/3	CFPFFJB16/3

Standard flush floor trunking is supplied with 2.5mm thick cover.

Service Module

Trunking	Compartments	Dimension	Tetrus	Alutrim
150 x 65	1	-	-	-
150 x 65	2	-	-	-
300 x 65	2	250x250	CFPFFTSBM*250/2	CFPFFASBM*250/2
300 x 65	3	250x250	CFPFFTSBM*250/3	CFPFFASBM*250/3
405 x 65	2	375x250		CFPFFASBM*375/2
405 x 65	3	375x250		CFPFFASBM*375/3
405 x 65	3	376x225	CFPFFTSBM*376/3	
405 x 65	3	350x350		CFPFFASBM*350/3

For 6 cover trunking replace M with D.

* Replace with 3 for 3.0mm thick cover. When 3.0mm thick cover flush floor trunking is ordered, all accessories will correspondingly be supplied.

Service Modules are supplied complete with accessory plates and one 13 A Twin Switch Socket Outlet.

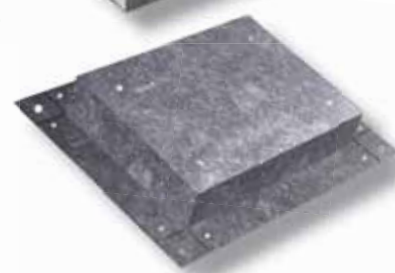
Other Accessories

Duct Width	Vertical Drop Down Boxes	Stop ends	Spare Coupler
150	CFPFFVB6*C	CFPFSE6	CFPFFSC
300	CFPFFVB12*C	CFPFSE12	CFPFFSC
405	CFPFFVB16*C	CFPFSE16	CFPFFSC

For Vertical Drop Down Boxes, replace * with number of compartments while ordering.

Adapter Junction Box

Flush Floor Trunking	Compartment	uPVC Duct		Metal Duct	
		75x25 uPVC	100x25uPVC	225x38	275x38mm
300 x 65	2	CFPFFABP1231/2	CFPFFABP1241/2	CFPFFABM1291/2	CFPFFABP12111/2
300 x 65	3	CFPFFABP1231/3	CFPFFABP1241/3	CFPFFABP1291/3	CFPFFABP12111/3
405 x 65	2	CFPFFABP1631/2	CFPFFABP1641/2	CFPFFABP1691/2	CFPFFABP16111/2
405 x 65	3	CFPFFABP1631/3	CFPFFABP1641/3	CFPFFABP1691/3	CFPFFABP16111/3



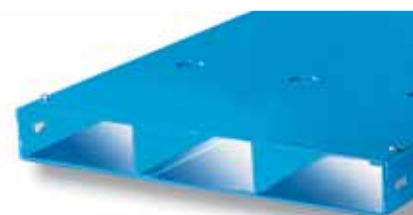


Flurplan® Catalogue Numbers

RAISED FLOOR TRUNKING SYSTEMS

Raised Floor Products are epoxy coated as standard. For Pregalvanised options, suffix the product code with PG.

Trunking		Trunking height (D)	
Width	Trunking	Height	Code
75	CFPRFT3D/C	38	1
100	CFPRFT4D/C	45	2
150	CFPRFT6D/C	50	3
225	CFPRFT9D/C	65	4
275	CFPRFT11D/C	80	5
300	CFPRFT12D/C	100	6
400	CFPRFT16D/C		



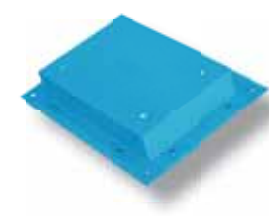
Replace C with number of compartments; 1, 2 and 3 for single, double and triple compartments. Replace D with height code for various depths.
Raised Floor Trunking is supplied without tap-off box. If the tap-off box is required please specify in your order, and we will supply one for every straight length.

Service Outlet Box			
	Dimension	Tetrus	Alutrim
1 compartment	125 x 125		CFPRASB125-0
1 compartment	125 x 250		CFPRASB125-1
2 compartment	250 x 250	CFPRTSB250-2	CFPRASB250-2
3 compartment	250 x 250	CFPRTSB250-3	CFPRASB250-3
3 compartment	300 x 300		CFPRASB300-3
3 compartment	375 x 250		CFPRASB375-3
3 compartment	376 x 225	CFPITSB376-3 [#]	
4 compartment	376 x 225	CFPITSB376-4 [#]	
4 compartment	375 x 250		CFPRASB375-4



Standard service outlet boxes supplied complete with accessory plates and one 13 A Twin Switch Socket Outlet.

Junction Box & Other Accessories					
Trunking Width	Junction Box		Vertical Drop Down Box	Stop End	Spare Coupler
	Dimension	Part No			
75	75X75	CFPRFJB3D/C	CFPRVB2D*C	CFPRSE3D	CFPRSD
100	100X100	CFPRFJB4D/C	CFPRVB4D*C	CFPRSE4D	CFPRSD
150	150X150	CFPRFJB6D/C	CFPRVB6D*C	CFPRSE6D	CFPRSD
225	225X225	CFPRFJB9D/C	CFPRVB9D*C	CFPRSE9D	CFPRSD
275	275X275	CFPRFJB11D/C	CFPRVB11D*C	CFPRSE11D	CFPRSD
300	300X300	CFPRFJB12D/C	CFPRVB12D*C	CFPRSE12D	CFPRSD
400	400X400	CFPRFJB16D/C	CFPRVB16D*C	CFPRSE16D	CFPRSD



All junction boxes are same depth of the trunking as a standard. For double height junction boxes, suffix H after part number.

For Vertical Drop Down Boxes, replace * with number of compartments while ordering.

Trunkings are manufactured from 1.0mm sheet steel.



Flurplan® Catalogue Numbers

ACCESSORIES & ACCESSORY PLATES



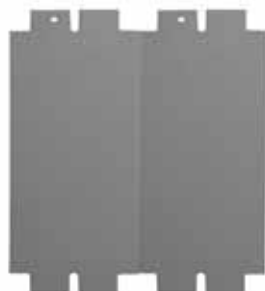
CFPSP00/xx
Series 00 plates
For 125x125mm Box



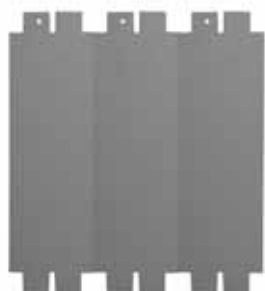
CFPSP00/xx
2 Nos Series 00 plates
For 125x250mm Box



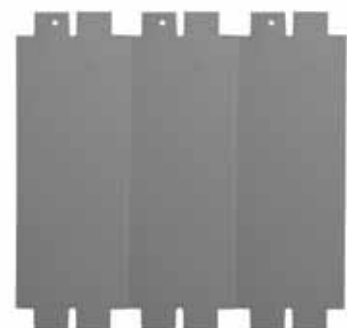
CFPSP01/xx
Series 01 plates
For 125x250mm Box



CFPSP01/xx
2 Nos Series 01 plates
For 250x250mm Box



CFPSP02/xx
3 Nos Series 02 plates
For 250x250mm Box



CFPSP03/xx
3 Nos Series 03 plates
For 300x300mm Box



CFPSP04/xx
Series 04 plates
For 325x325mm Box



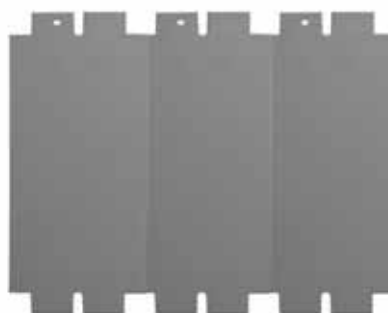
CFPSP05/xx
Series 05 plates
For 376x225mm Box



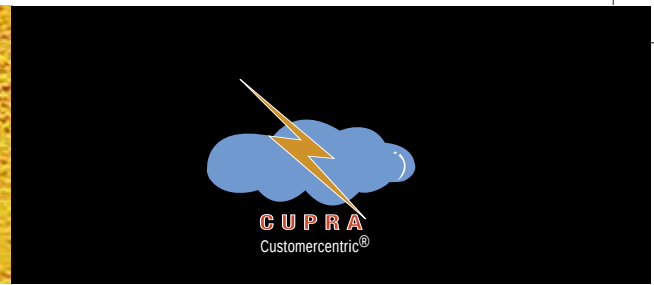
CFPSP06/xx
4 Nos Series 06 plates
For 376x225mm Box



CFPSP07/xx
3 Nos Series 07 plates
For 375x250mm Box



CFPSP08/xx
3 Nos Series 08 plates
For 350x350mm Box



Flurplan® Catalogue Numbers

ACCESSORIES & ACCESSORY PLATES



CFPSPxx/01
Plate for 13A Twin switchsocket outlet
(CUPRA 13A2SSO & 13A2SSOR)



CFPSPxx/02
Plate for 4 Nos LJU6C Data outlets



CFPSPxx/02A
Angled Plate for 4 Nos LJU6C Data outlets



CFPSPxx/03
Plate for 4 Nos Euro Data outlets



CFPSPxx/04
Blank Plate



CFPSPxx/05
Plate for 13A Twin switchsocket outlet
(MK 2532 WHI)



CFPSPxx/06
Plate for 13A Single switchsocket outlet



CFPSPxx/07
Plate for 5A Single switchsocket outlet

CFPSPxx/08
Plate for 15A Single switchsocket outlet



CFP13A1SSO
13A Single switchsocket outlet
DP Switched



CFP13A2SSO
13A Twin switchsocket outlet
DP Switched, twin earth



CFP13A1SSOR
13A Single switchsocket outlet
DP Switched, red rockers



CFP13A2SSOR
13A Twin switchsocket outlet
DP Switched, twin earth, red rockers



CFP5A1SSO
5A Single switchsocket outlet
DP Switched



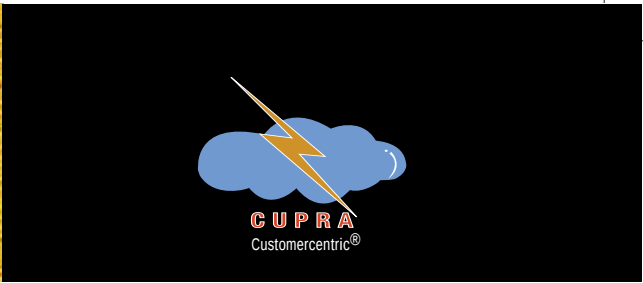
CFP15A1SSO
15A Single switchsocket outlet
DP Switched



CFPC6EDO
Category6 Euro data module



CFPC6LDO
Category6 LJU6C data module



Flurplan® Catalogue Numbers

ALLURE

Rotun		
	Inscreed	Raised Floor
2 Compartment	CFPAR*IS/2	CFPARRF/2
3 Compartment	CFPAR*IS/3	CFPARRF/2

Replace * with D for Duct entry, and with C for conduit knockouts. Conduit knockout size is standard 25mm for all compartments.

Raised floor boxes are supplied with 20mm conduit knockouts as standard.

All boxes have a diameter of 240mm.



For POP numbers please contact your local distributor



INGRESSOR



The customer has now three unbeatable choices, Ingressor, Ingressor Triad, and the Ingressor Totaplus to choose the best water proof solution to meet the demands of a potential wet area.

Cupra is by far, the product with the widest choice of floor boxes to suit customer requirements. Products can also be customised to suit specific needs.

Please contact your regional office or your authorised distributor for support and guidance.



Ingressor Accessory Plate for 13A Single SSO (CFP13A1SSO) & twin Cat 6 Data Outlets (CFPC6DO)



Ingressor Accessory Plate for 13A Twin Switch Switch Socket Outlet (CFP13A2SSO)



Ingressor Totalplus Accessory Plate for 13A Single Socket Outlet (13A2SSO)

CFPIPSERIES1

CFPIPSERIES2

CFPIPSERIES3

* 150mm Ingressor Box height is 100-110mm as standard, to order 75-90mm add D suffix at the end of part number, 15A socket can not fitted in lower depth boxes

* 250mm Ingressor Box height is 75-90mm as standard, to order 100-110mm add D suffix at the end of part number

* To Split basic box and frame and trap, suffix BB for Basic box, FT for frame and trap, BR for Bronze finish and SL for silver finish

Part Number	Description	Part Number	Description
CFPIISB150-1	150 X 150 1 Compartment Ingressor Inscreed Floor Service Box	CFPISP01/XX	Accessory Plate for single compartment, Refer page no. 50 for required items
CFPIISB150-2	150 X 150 2 Compartment Ingressor Inscreed Floor Service Box IP 56 in operation	CFPISP02/XX	Accessory Plate for Two compartment, Refer page no. 50 for required items
CFPIISB250-3	250 X 250 3 Compartment Ingressor Triad Inscreed Floor Service Box IP 56 in operation(150 x 150 opening)	CFPSPXX/--	Please check page no. 50 for relevant part numbers of accessories that is required
CFPIISBTP-1	Ingressor Totaplus Inscreed Floor Service Box IP 66	CFPTSP01/XX	Refer page no. 50 for required items

NOTES

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CUPRA

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