

**2010**

## **ASEC INDUSTRIES PTE LTD**

No. 1 Upper Aljunied Link,  
#08-02, Joo Seng Warehouse Block A, Singapore 367901

TEL: (65) 6383 4368 / 6284 2051

FAX: (65) 6383 4369

Email: [shirleytan@asec.com.sg](mailto:shirleytan@asec.com.sg)

Website: [www.asec.com.sg](http://www.asec.com.sg)

# **[CABLE TRUNKING CATALOGUE]**

Specification subject to change without prior notice

## Table of Contents

A. CABLES TRUNKING .....	4
Conduit PVC .....	4
High Impact Conduits Heavy Gauge.....	4
Heavy Gauge Coupling .....	4
Adaptors Female Thread.....	4
Spacer Bar Saddle.....	4
Strap Saddle .....	4
Inspection Elbow.....	4
Inspection Bend .....	5
Bending Spring .....	5
Corrugated uPVC Conduit .....	5
Terminal Box .....	5
Through Box.....	5
Tee Box.....	5
Intersection Box .....	5
Circular Lid .....	5
Galvanised Steel Conduit & Accessories.....	6
Cable Trunking System (SINGAPORE STANDARD CABLE TRUNKING).....	8
Cable Ladder .....	11
Epoxy Cable Ladder.....	11
Hot Dip Galvanised Cable Ladder.....	11
Cable Tray.....	12
Epoxy Cable Tray .....	12
Hot Dip Galvanised Cable Ladder.....	12
FLUSHFLOOR TRUNKING SYSTEM .....	13
Planning and Layout.....	13
Flushfloor Trunking Data.....	14
Flexi-line Flushfloor Trunking.....	15
Trunking Features .....	16
Flexi-Line Junction Box.....	17
Flexi-Line Accessories.....	17
Flexi-Line Service Box.....	19

Service Box Accessories .....	20
Flexi-line Service Box.....	21
Slim-line Flushfloor Trunking .....	22
Slim-line Junction and Vertical Access Box .....	23
Slim-line Accessories.....	24
Raised Floor Trunking System .....	25
General.....	25
Planning and Layout.....	25
Vertical Access Box.....	27
4 – Way Junction Box .....	27
Accessories.....	28
MK Raised Floor Outlet Box .....	29
Underfloor Ducting System.....	30
Introduction .....	30
Authority .....	30
Important Note .....	30
Planning and Layout.....	31
UPVC Ducting and Accessories.....	32
Metal Ducting and Accessories .....	33
Junction Box.....	35
Service Outlet Box.....	37
Service Outlet Box Accessories .....	39
Vertical Access Boxes & Pedestal Outlet Boxes .....	41
Vertical Access Box for Max. 25mmDepth Ductings.....	41
Vertical Access Box for Max. 32mmDepth Ductings.....	41
Vertical Access Box for Max. 38mm Depth Ductings.....	41
Pedestal Outlet Boxes .....	41
Specifier’s Guide .....	42
Installation Guide .....	43
MARINE LADDER .....	45
Metal Flexible conduit Adaptor (Control Box Adaptor) .....	46
Flexible Conduit Adaptor .....	47
Metal Flexible Conduit .....	48
Wiring Duct (Open Solt) .....	49

## A. CABLES TRUNKING

### Conduit PVC

#### High Impact Conduits Heavy Gauge

Standard Length : 2.9m  
BLK OR WHI



ESP/2, ESP/25, ESP/20 (20mm)  
ESP/3, ESP/35, ESP/25 (25mm)  
ESP/4 (32mm)

#### Heavy Gauge Coupling

BLK OR WHI



ESC/2 (20mm)  
ESC/3 (25mm)  
ESC/4 (32mm)

#### Adaptors Female Thread

Flare push-in with male  
bushes  
BLK OR WHI



EFA/2 (20mm)  
EFA/3 (25mm)  
EFA/4 (32mm)

#### Spacer Bar Saddle

BLK OR WHI



ESB/2 (20mm)  
ESB/3 (25mm)  
ESB/4 (32mm)

#### Strap Saddle

BLK OR WHI



ES/2 (20mm)  
ES/3 (25mm)  
ES/4 (32mm)

#### Inspection Elbow

BLK OR WHI



EIE/2 (20mm)

## Inspection Bend



## Bending Spring



## Corrugated uPVC Conduit



## Terminal Box



## Through Box



## Tee Box



## Intersection Box



## Circular Lid



## Galvanised Steel Conduit & Accessories

Conduit is manufactured in accordance with British Standard\* BS31 Class 3. Each 3.81 meter length with both ends threaded and fitted with coupler on one

### BS31: 1940 SCREWED CONDUIT - HEAVY GAUGE (CLASS B)

Dimension			Thickness	Weight		
Trade Size	Outside diameter		Nominal	Per 100ft		Per 100m
Inch	Inch	mm	mm	lbs	Kg	kg
3/4	3/4	19.0	1.6 ±0.15	47	21.3	69.9
1	1	25.4	1.6 ±0.15	64	29.0	95.1
1 1/4	1 1/4	31.8	1.6 ±0.15	81	36.7	120.4

*Applicable Tolerances - Outside Diameter : +0.001(0.02mm). For threads, refer to British Standard Steel Conduit Threads parallel (BS31-1940)*

#### **SPECIFICATIONS**

\*British Standard steel conduits are classified as follows:

1. BS31-1940
  - Plain - Light gauge (Class A)
  - Screwed - Heavy gauge (Class B)
2. Amendment No.3 to BS31-1940 (published 26 April, 1967)
  - Screwed - Heavy gauge (Class B)
3. BS4568 Part 1: 1970
  - Plain - Light gauge (Class A)
  - Threaded conduit - Heavy gauge (Class B)
4. Amendment Slip No.1 to BS4568 Part1 : 1970 (published 21 March, 1973)
  - Plain conduit - Light gauge (Class A)
  - Threaded conduit - Heavy gauge (Class B)

Steel Conduit is also classified according to its protection against corrosion as follows:

- Class 1** Light protection both inside and outside surfaces
- Class 2** Medium protection both inside and outside surfaces
- Class 3** Medium/heavy protection inside surface as Class 2, outside surface as Class 4
- Class 4** Heavy protection for both inside and outside surfaces

Single core PVC insulated cables in straight runs of conduit not exceeding 3m in length.

#### **CABLE FACTOR**

Type of Conductor	Conductor Cross-sectional Area (mm <sup>2</sup> )	Factor
Solid	1	22
	1.5	27
	2.5	39
Stranded	1.5	31
	2.5	43
	4	58
	6	88
	10	146

**Table 1 :** Cable factor for short straight runs.

#### **CONDUIT FACTOR**

Conduit Diameter (mm <sup>2</sup> )	Factor
2.5	43
4	58
6	88
10	146

**Table 2 :** Conduit factor for short straight runs.

#### **Cable capacities of Conduit**

**(Based on appendix 12 IEE Regulations 15th Edition)**

For each cable factor. Add all the cable factors so obtained and compare with the factors for conduit.

The size of conduit which will satisfactorily accommodate the cables is that size having a factor equal to or exceeding the sum of the cable factors.

**CABLE FACTOR**

Type of Conductor	Conductor Cross-sectional Area (mm <sup>2</sup> )	Factor
Solid or Stranded	1	16
	1.5	22
	2.5	30
	4	43
	6	58
	10	105

**Table 3 :** Cable factor for long runs incorporating bends.

**Table 4 :** Conduit factors for runs incorporating bends

Length of run	CONDUIT DIAMETER, MM														
	20	25	32	20	25	32	20	25	32	20	25	32	20	25	32
Metres	Straight			One bend			Two bends			Three bends			Four bends		
1	Covered by Tables 1 & 2			303	543	947	286	514	900	256	463	818	213	388	692
1.5				294	528	923	270	487	857	233	422	750	182	333	600
2				286	514	900	256	463	818	213	388	692	159	292	529
2.5				278	500	878	244	442	783	196	358	643	141	260	474
3				270	487	857	233	422	750	182	333	600			
3.5	290	521	911	263	475	837	222	404	720	169	311	563			
4	286	514	900	256	463	818	213	388	692	159	292	529			
4.5	282	507	889	250	452	800	204	373	667	149	275	500			
5	278	500	878	244	442	783	196	358	643	141	260	474			
6	270	487	857	233	422	750	182	333	600						
7	263	475	837	222	404	720	169	311	563						
8	256	463	818	213	388	692	159	292	529						
9	250	452	800	204	373	667	149	275	500						
10	244	442	783	196	358	643	141	260	474						

**CONDUIT FITTINGS AND ACCESSORIES**



**1 Way Box**



**2 Way Box**



**Angle Box**

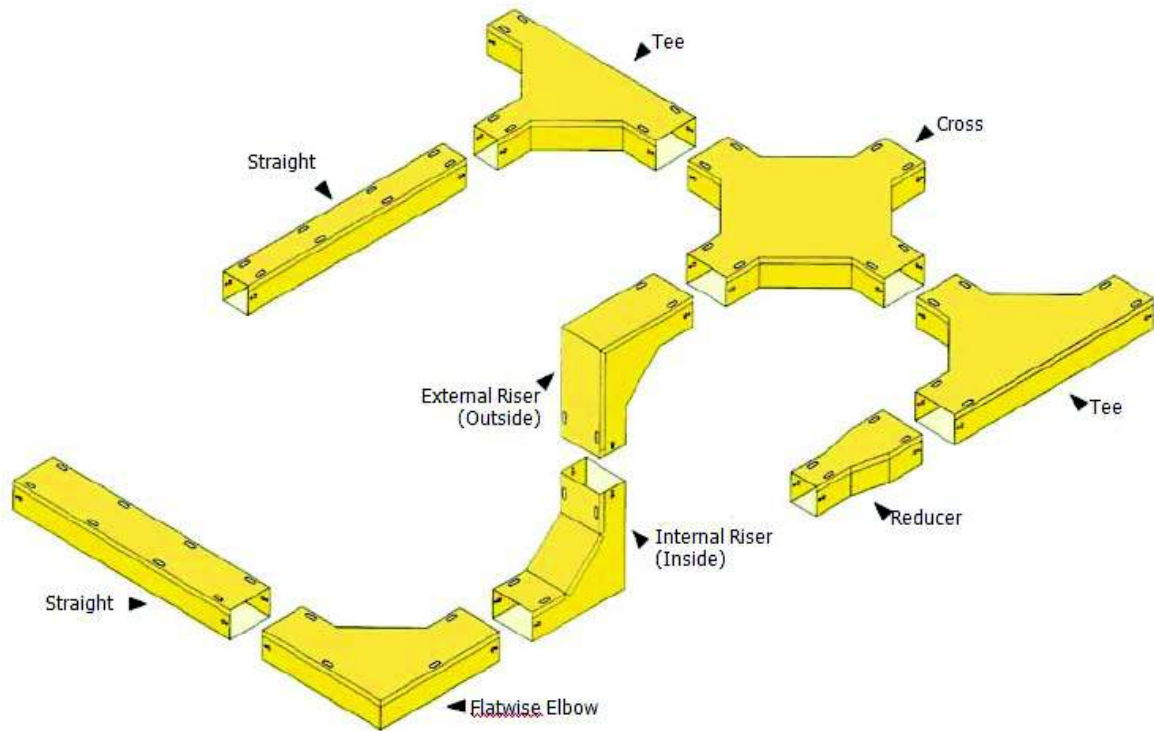


**3 Way Box**



**4 Way Box**

## Cable Trunking System (SINGAPORE STANDARD CABLE TRUNKING)



Specification subject to change without prior notice

Page 8

**ASEC INDUSTRIES PTE LTD**

No. 1 Upper Aljunied Link #08-02, Joo Seng Warehouse Block A, Singapore 367901

TEL: (65) 6383 4368 / 6284 2051

FAX: (65) 6383 4369

Email: [shirleytan@asec.com.sg](mailto:shirleytan@asec.com.sg)

Website: [www.asec.com.sg](http://www.asec.com.sg)

## SINGAPORE STANDARD CABLE TRUNKING

### SS249 : 1981 CLASS 1

Material	: Electro-Galvanised Steel to BS EN10152:1994
Standard	: SS249:1981 Class 1
Finish	: Epoxy powder coated to a minimum of 45 micron
Colour	: Grey, Orange, Red, White, Ivory Beige, Green, Black, Blue
Std length	: 2.44 meter
Complete with	: Coupler, Copper Link, Tapping Screw, Bolt & Nut

### RECOMMENDED MATERIALS AND TYPE OF FINISHING

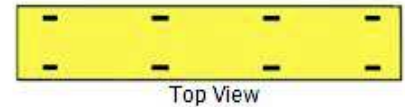
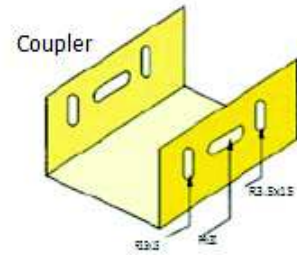
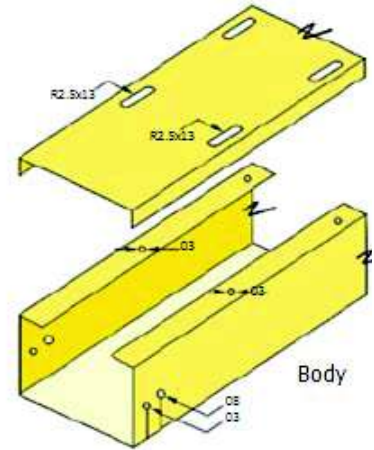
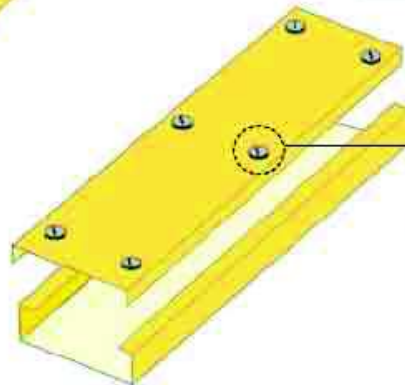
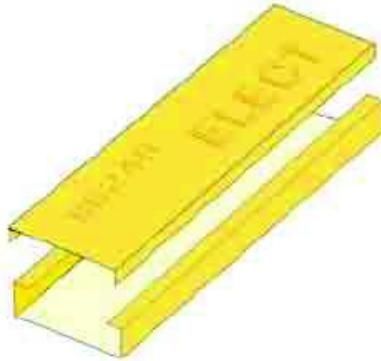
Materials	Types of Finishing
Galvanised Iron BS EN 10143:1993	Original finish
Mild Steel (Cold rolled steel) BS1449:Part1:19991 or JIS G3141	Epoxy powder coated or hot-dip galvanised after fabrication to BS EN ISO1461:1999
Electro-Galvanised Steel BS EN10152:1994	Epoxy powder coated
Stainless Steel Grade AISI 304, 316 or 316L	Original finish

### EMBOSS WORDING (on cable trunking cover)

Available wording:

- (1) ELECT
- (2) TEL
- (3) DATA
- (4) ALARM

Other wording available up to a maximum of 7 alphabets.



### TRUNKING COVER WITH TURN-BUCKLE FASTENER

Trunking Size (Width)	50 - 600mm
No. of fastener Per 2.44mm Length	6 Pcs
Trunking Finishing	Epoxy powder coated



## SINGAPORE STANDARD CABLE TRUNKING 249:1981 CLASS 1

Size (mm)	Steel Thickness (mm)		Reference Number	
	Body	Cover	SECC-P Electro Galvanised	
50 x 25	1.0	1.0	EBT/IB/021	EMT/WHI/021
50 x 50	1.0	1.0	EBT/IB/022	EMT/WHI/022
75 x 50	1.2	1.2	EBT/IB/032	EMT/WHI/032
100 x 50	1.2	1.2	EBT/IB/042	EMT/WHI/042
100 x 75	1.2	1.2	EBT/IB/043	EMT/WHI/043
100 x 100	1.4	1.2	EBT/IB/044	EMT/WHI/044
125 x 50	1.4	1.2	EBT/IB/052	EMT/WHI/052
150 x 50	1.4	1.2	EBT/IB/062	EMT/WHI/062
150 x 75	1.4	1.2	EBT/IB/063	EMT/WHI/063
150 x 100	1.4	1.2	EBT/IB/064	EMT/WHI/064
150 x 150	1.4	1.2	EBT/IB/066	EMT/WHI/066
175 x 50	1.4	1.2	EBT/IB/072	EMT/WHI/072
200 x 50	1.6	1.4	EBT/IB/082	EMT/WHI/082
200 x 75	1.6	1.4	EBT/IB/083	EMT/WHI/083
200 x 100	1.6	1.4	EBT/IB/084	EMT/WHI/084
200 x 150	1.6	1.4	EBT/IB/086	EMT/WHI/086
225 x 50	1.6	1.4	EBT/IB/092	EMT/WHI/092
250 x 50	1.6	1.4	EBT/IB/102	EMT/WHI/102
275 x 50	1.6	1.4	EBT/IB/112	EMT/WHI/112
300 x 50	1.6	1.6	EBT/IB/122	EMT/WHI/122
300 x 75	1.6	1.6	EBT/IB/123	EMT/WHI/123
300 x 100	1.6	1.6	EBT/IB/124	EMT/WHI/124
300 x 150	1.6	1.6	EBT/IB/126	EMT/WHI/126
350 x 50	1.6	1.6	EBT/IB/142	EMT/WHI/142
375 x 75	1.6	1.6	EBT/IB/153	EMT/WHI/153

### INSTRUCTION FOR REFERENCE NUMBER, EXAMPLE :

## EBT/ORG/153

EBT - EG/SS249 trunking with bracket  
EMT - EG/SS249 trunking w/o bracket  
CRT - Cold Rolled trunking

Trunking size reference  
no. for 375 x 75mm

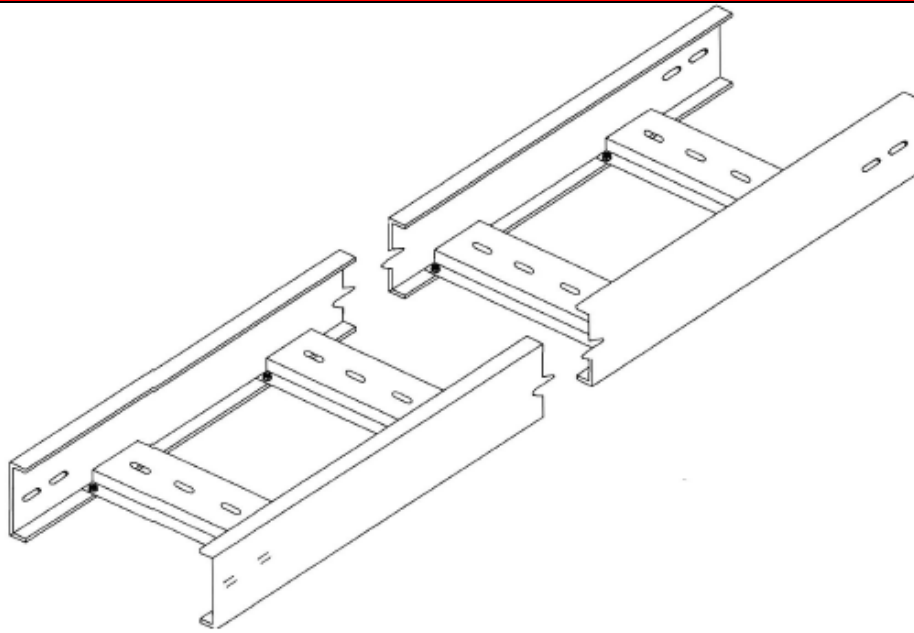
**COLOURS**

WHI - White	IB - Ivory Beige	ORG - Orange
GRY - Grey	BLU - Blue	GRN - Green
RED - Red	BLK - Black	HDG - Hot-Dip Galvanised

\*Non standard colours available on request

**Example:**  
Order an Orange SS249 trunking with bracket, 375 x 75mm  
List no.  
EBT/ORG/153

## Cable Ladder



### Epoxy Cable Ladder

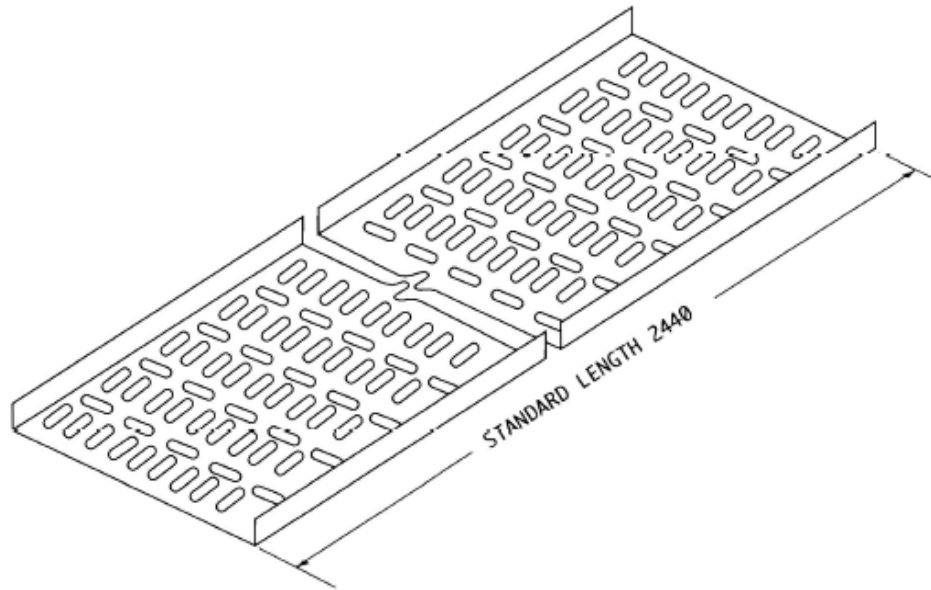
Material : Electro-Galvanised Steel  
Finish : Epoxy powder coated, a minimum of 45 microns  
Length : 2.44 metres  
Rung : Slotted rung spaced at 275 mm  
Channel depth : 100 mm  
Complete with : Coupler, copper link bolts & nuts

### Hot Dip Galvanised Cable Ladder

Material : Hot rolled steel sheet to JIS G3131 SPHC  
Finish : Hot Dip galvanised after fabrication  
Length : 2.44 metres  
Rung : Slotted rung spaced at 275 mm  
Channel depth : 100 mm  
Complete with : Coupler, hex bolts & nuts (zinc plated)

Size	
(mm)	(mm)
150	6
300	12
450	18
600	24
750	30
900	36
1000	40
1200	40

## Cable Tray



### Epoxy Cable Tray

Material : Cold Rolled Steel  
Finish : Epoxy powder coated a minimum of 45 microns  
Length : 2.44 metres  
Complete with : Joint plate, copper link, bolts & nuts

### Hot Dip Galvanised Cable Ladder

Material : Hot rolled steel sheet to JIS G3131 SPHC  
Finish : Hot Dip galvanised after fabrication  
Length : 2.44 metres

Size	
(mm)	(mm)
50	2
75	3
100	4
150	6
210	8
240	9
300	12
360	14
390	15
450	18
600	24
750	30
1000	40

# FLUSHFLOOR TRUNKING SYSTEM

## Planning and Layout

### Planning

When planning the flushfloor trunking system layout, it is essential to establish the following information and requirement:

Introduction of trunking must begin at the distribution board of the floor concerned;

Determine the services, the capacity of the trunking and the junction boxes to be laid;

Trunking should be laid onto the level of structural slab and it requires minimum 60mm screed in order to be flushed with the trunking;

As for the flexi-line system, the extent to which a service outlet modular unit can be equipped with

facilities is determined by its dimensions. Our standard service outlet modular units are designed to meet the requirement of a normal workplace.

We recommend the use of carpets with a backing of at least 2mm thick.

Our recessed service outlet covers can withstand the usual wear and tear of chairs fitted with castors.

We recommend that duct outlets be incorporated along walkways. This will provide greater flexibility for future services requirements with the use of pedestal outlet boxes mounted on top.

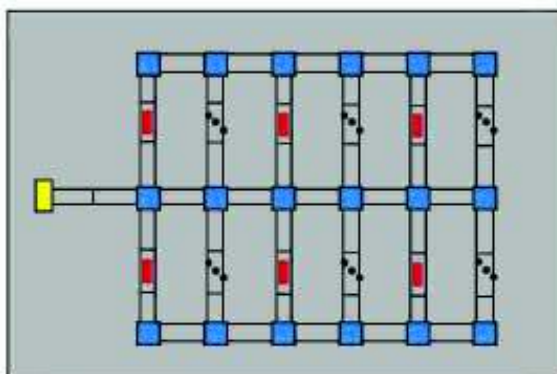
### Layout

Depending on the desired flexibility, the ducting system is usually laid out on a grid, fishbone or comb pattern with single, double or triple compartment runs;

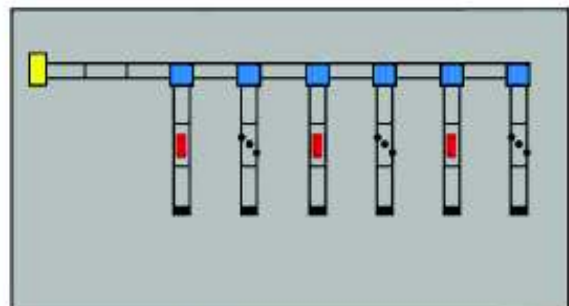
A grid pattern is recommended if the user requires a wide degree of flexibility. In any reorganisation of user's work areas, the grid patterned trunkings provide multiple options for cabling requirements;

A fishbone pattern is ideal for medium sized areas where lesser boxes are required;

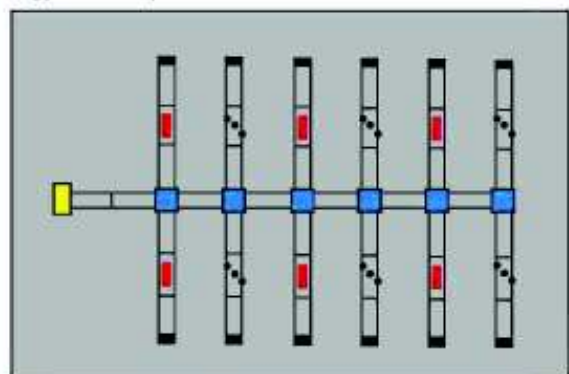
A comb pattern is most economical wherein less ducting is used.



A typical grid pattern



A typical comb pattern



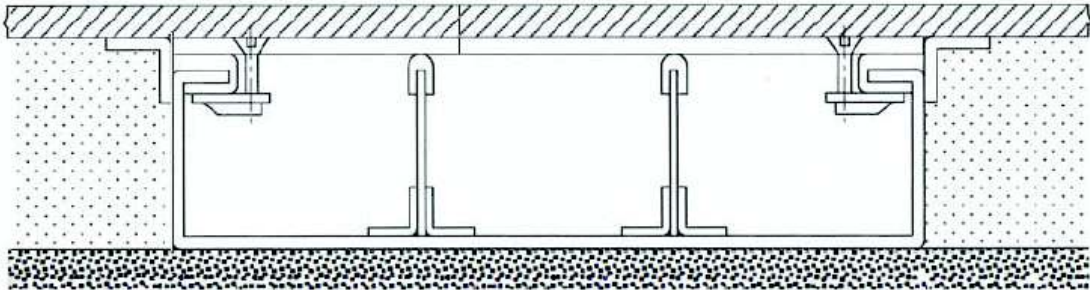
A typical fishbone pattern

## Flushfloor Trunking Data

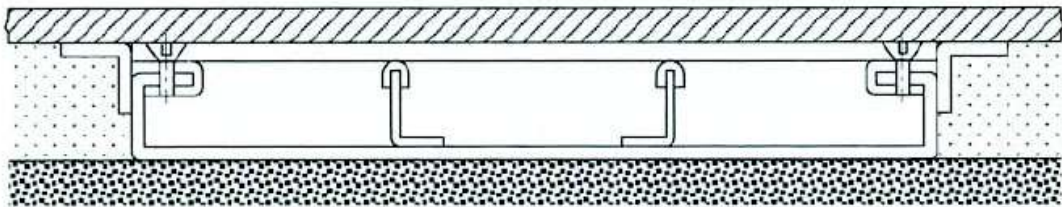
### VARIATIONS

Flushfloor trunkings comprise two variations

#### Flexi-Line System - Quick release Fasterner Clamp-on covers



#### Slim-Line System- Screw on cover

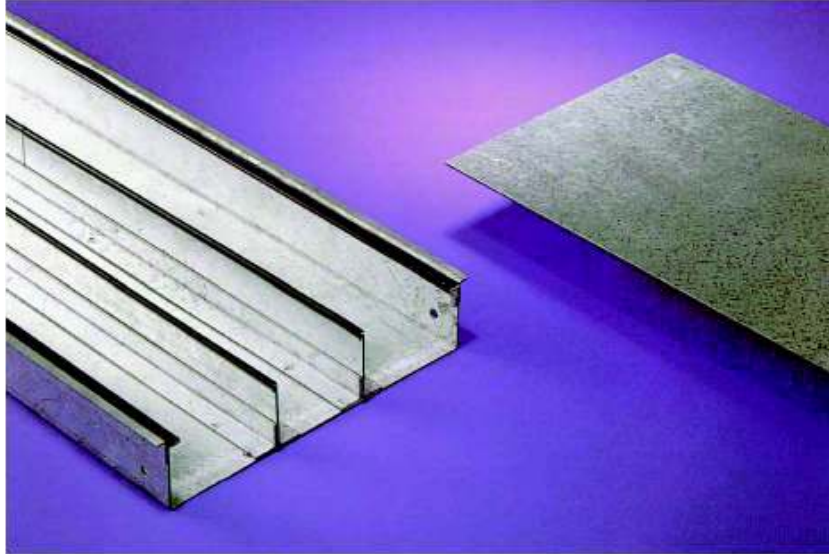


Length of Body	: 2440mm
Length of Cover	: 406.6mm (6 nos per trunking)
Trunking Body Thickness	: 1.6mm
Trunking Cover Thickness	: 2.5mm standard
	Other dimensions and variations are available to order.
Materials	: Pre-galvanised sheet steel to BS 2989:1982
Width:	: Refer to component ranges.
Depth:	: Flexi-Line 60mm Slim-Line 28mm
Complies with the relevant IEE regulation and BS 4678 class 3.	

### DESCRIPTION

Flexi-line and Slim-line components:-	Trunking
	Coupling
	Services boxes
	Junction boxes
	End Caps
	Vertical Access Boxes
	Various Adaptors
	Pedestal Boxes
	Reducers

## Flexi-line Flushfloor Trunking



**Modular covers facilitate easy access to the cables for maintenance purposes. Flushfloor service outlet boxes can be installed on the cover.**

### TRUNKING SIZES

Length of Body : 2440mm  
 Length of Cover : 406.6mm (6 nos per trunking)  
 Width : 155mm - 1 compartment  
           280mm - 2 or 3 compartments  
           405mm - 3 compartments  
 Depth : 60mm

### TOLERANCE

All connections are subject to local tolerance during installation on site. Floor finish adjustment to service outlet - 0mm, +12mm

### MATERIALS

Pre-galvanised sheet steel to BS 2989:1982

Model	Trunking Size		Compartment	Compartment Size			Service Box
	W mm	H mm		1st mm	2nd mm	3rd mm	
FXT 155/1	155	60	1	155	-	-	FXS 125/1/1 FXS 250/1/1
FXT 280/2	280	60	2	140	140	-	FXS 125/2/2 FXS 250/2/1 FXS 250/2/2
FXT 280/3	280	60	3	98	84	98	FXS 250/3/1
FXT 405/3	405	60	3	147	111	147	FXS 375/3/3 FXS 375/3/2

**Note:** Other dimensions and variations are available to order

## Trunking Features

The use of quick-release fasteners enable easy installation of modular covers eliminating time-consuming screws fastening alignment.

The quick release fastener clamps are precision moulded from zinc alloy die-cast material to ensure a corrosion free system with the benefits of easy installation.

Stainless steel screws are used in the fastener clamps for more positive fastening. Unlike spring pressure clamp which is restricted by pre-adjusted fastening depth, the quick-release fastener enables continuous tightening till the cover fits.

Modular covers of standard length of 406.6mm (6 nos per trunking), can be removed and be installed with flushfloor service outlets. Flush service outlets of single, twin and triple compartments are available.

The service outlet frame and trap covers are manufactured from high pressure zinc alloy die-cast for strength and durability.

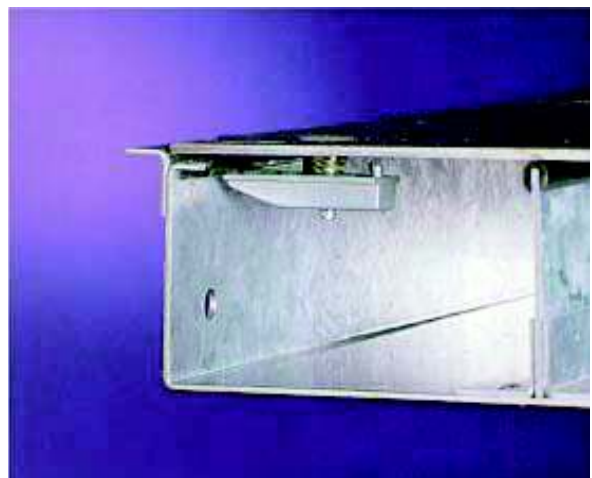
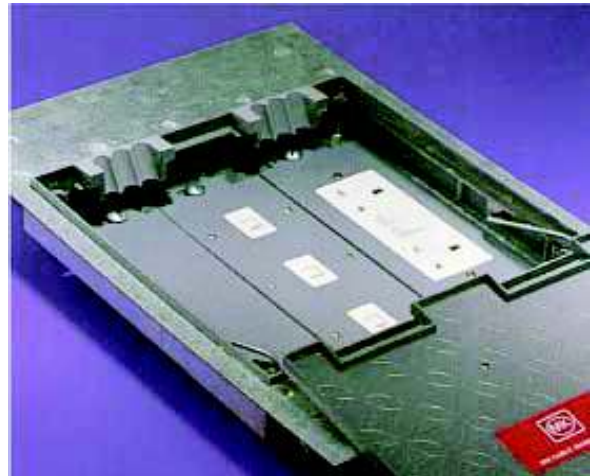
The accessory plates are large enough to accept standard accessories.

The trap covers, frame and accessory plates are epoxy powder coated to give further protection against rust.

The use of quick-release fasteners enable easy installation of modular covers thus eliminating time-consuming screw-to-screwwhole alignment. The fastening clamps are precision moulded from zinc alloy die-cast material to ensure a corrosion free and quality fastening system. The fastener is designed with sufficient depth of screw threads and a friction clamp for mechanical strength.

Segmented partitions for flexi-line trunking are removable for insertion of flush service outlets.

PVC gaskets are used on flange edges and partitions to cushion the modular covers, thus reducing transmission of noise when covers are stepped upon.



## Flexi-Line Junction Box

Cross, tee and elbow junction boxes are supplied with flyovers. Body of boxes and elbow is formed from 1.6mm pre-galvanised sheet steel. All covers are formed from 2.5mm pre-galvanised sheet steel.

Flexi-line cross boxes is designed on a modular concept to suit the flexi-line flushfloor trunking.

### CROSS JUNCTION BOX

List No	Box Size	Compartment size		
		1 <sup>st</sup> mm	2 <sup>nd</sup> mm	3 <sup>rd</sup> mm
FXJ 155/1C	155 x 60mm 1 Compartment	155	-	-
FXJ 280/2C	280 x 60mm 2 Compartments	140	140	-
FXJ 280/3C	280 x 60mm 3 Compartments	98	84	98
FXJ 405/3C	405 x 60mm 3 Compartments	147	111	147



### VERTICAL ACCESS BOX

List No	Box Size	Compartment size		
		1 <sup>st</sup> mm	2 <sup>nd</sup> mm	3 <sup>rd</sup> mm
FXJ 155/1	155 x 60mm 1 Compartment	155	-	-
FXJ 280/2	280 x 60mm 2 Compartments	140	140	-
FXJ 280/3	280 x 60mm 3 Compartments	98	84	98
FXJ 405/3	405 x 60mm 3 Compartments	147	111	147



## Flexi-Line Accessories

### REDUCER

List No	Description
FXR 405-280	Reducer 405 to 280mm
FXR 280-155	Reducer 280 to 155mm



### END CAP

List No	Description
FXE 155	End Cap for 155 x 60mm trunking
FXE 280	End Cap for 280 x 60mm trunking
FXE 405	End Cap for 405 x 60mm trunking



## COUPLING FXC 1

Coupling for joining flushfloor trunking and to facilitate earth continuity. Standard size for all trunkings



## TRINKING FIXING BRACKET FXFB1



## ADAPTOR 'CROSS' JUNCTION BOX TO UNDERFLOOR METAL DUCTING

<u>Model</u>	<u>Compartment</u>	<u>Box size (mm)</u>			<u>Adaptor for metal duct</u>
		<u>(W)</u>	<u>(H)</u>	<u>(L)</u>	
FXJ 155/1XM21	1	155	60	400	UMD 50/1/6
FXJ 155/1XM31	1	155	60	400	UMD 75/1/6
FXJ 155/1 XM41	1	155	60	400	UMD100/1/6
FXJ 2SO/2XM41	2	280	60	400	UMD 100/2/6
FXJ 280iXM61	2	280	60	400	UMD 150/2/6
FXJ 2SO/3XM61	3	280	60	400	UMD 150/3/6
FXJ 2SO/3XM91	3	280	60	400	UMD 225/3/6
FXJ 280/3XM121	3	280	60	400	UMD 300/3/6
FXJ 405/3XM61	3	405	60	400	UMD 150/3/6
FXJ 405/3XM91	3	405	60	400	UMD 225/3/6
FXJ 405/3XM121	3	405	60	400	UMD 300/3/6

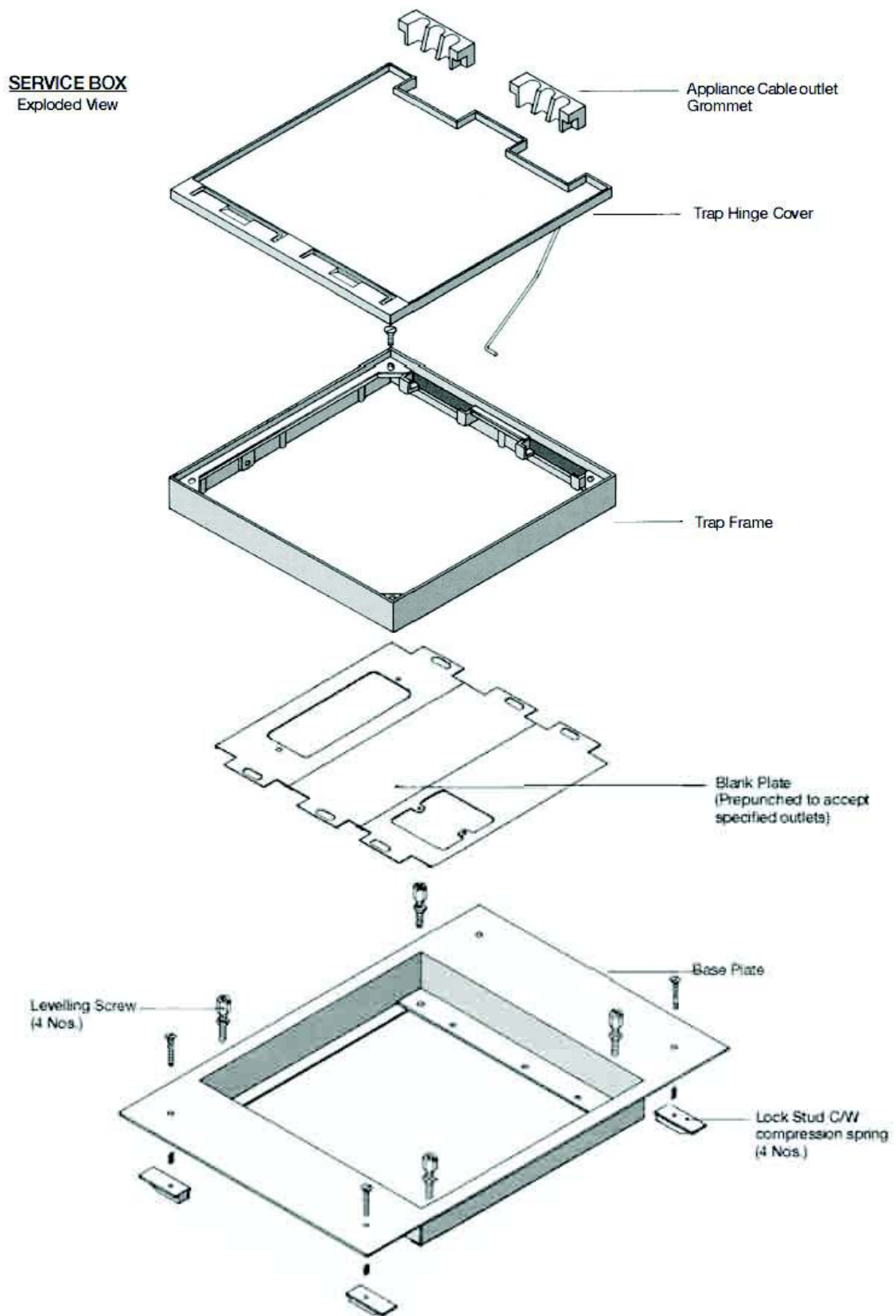


## ADAPTOR 'TEE' JUNCTION BOX TO UNDERFLOOR METAL DUCTING

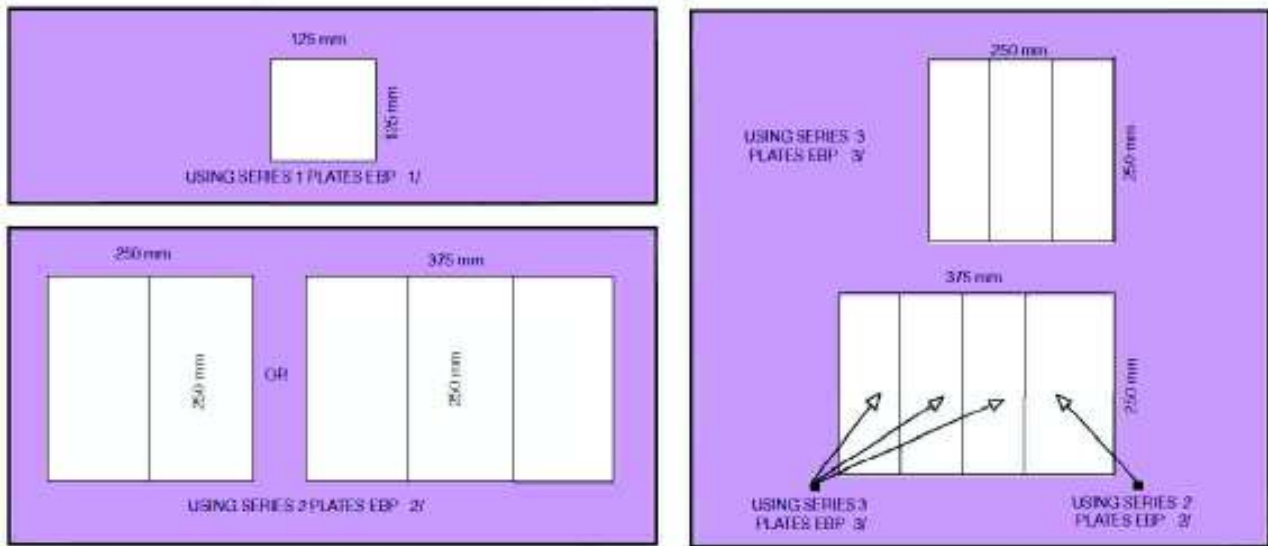
<u>Model</u>	<u>Compartment</u>	<u>Box size (mm)</u>			<u>Adaptor for metal duct</u>
		<u>(W)</u>	<u>(H)</u>	<u>(L)</u>	
FXJ 155/HM21	1	155	60	406	UMD 50/1/6
FXJ 155/HM31	1	155	60	406	UMD 75/1/6
FXJ 155/1TM41	1	155	60	406	UMD100/1/6
FXJ 280/2TM41	2	280	60	406	UMD 100/2/6
FXJ 280/2TM61	2	280	60	406	UMD 150/2/6
FXJ 280/3TM61	3	280	60	406	UMD 150/3/6
FXJ 280/3TM91	3	280	60	406	UMD 225/3/6
FXJ 2SO/3TM121	3	280	60	406	UMD 300/3/6
FXJ 405/3TM61	3	405	60	406	UMD 150/3/6
FXJ 405/3TM91	3	405	60	406	UMD 225/3/6
FXJ 405/3TM121	3	405	60	406	UMD 300/3/6



## Flexi-Line Service Box



## Service Box Accessories



Accessory Description and List No.	For 125 x 125mm 1 Compartment Boxes	For 250 x 250mm 2 Compartments Boxes OR 375 x 250mm 3 Compartments Boxes	For 250 x 250mm 3 Compartments Boxes OR 375 x 250mm 4 Compartments Boxes
	Series 1 Plate List No.	Series 2 Plate List No.	Series 3 Plate List No.
<b>BLANK PLATES</b>			
Blank plate for use with FXS 125/1/1	EBP 1/01		
Blank plate for use with FXS 250/2/1 or FXS 375/3/2		EBP 2/01	
Blank plate for use with FXS 250/3/1			EBP 3/01
<b>PLATES FOR 13A POWER ACCESSORIES</b>			
For one 2531 WHI (1 gang Panel Mounting 13A Switchsocket)	EBP 1/02	EBP 2/02	EBP 3/02
For two 2531 WHI (2 gang Panel Mounting 13A Switchsocket)		EBP 2/21	EBP 3/27
For one 2532 WHI (2 gang Panel Mounting 13A Switchsocket)		EBP 2/03	EBP 3/03
For one 1 gang LOGIC accessory	EBP 1/03	EBP 2/04	
For two 1 gang LOGIC accessories		EBP 2/14	EBP 3/41
<b>COMBINATION PLATES FOR 13A POWER WITH TELECOM ACCESSORIES</b>			
For one MK 2531 WHI (1 gang Panel Mounting 13A SwitchSocket) and one 2917 WHI (1 gang MINILOGIC American Telephone Socket)		EBP 2/24	
<b>PLATES FOR TELECOM/DATA ACCESSORIES</b>			
For one 2917 WHI (1 gang MINILOGIC Telephone Socket American Type)	EBP 1/05	EBP 2/07	EBP 3/04
For two 2917 WHI (1 gang MINILOGIC Telephone Socket American Type)		EBP 2/08	EBP 3/08

## Flexi-line Service Box

Service outlet module covers are manufactured from 2.5mm thick pre-galvanised sheet steel.

Trap frame and trap covers are manufactured from high pressure zinc alloy die-casting materials for good mechanical strength and rust resistance.

Trap frame, trap covers and accessory plates are epoxy coated to protect the exposed parts.

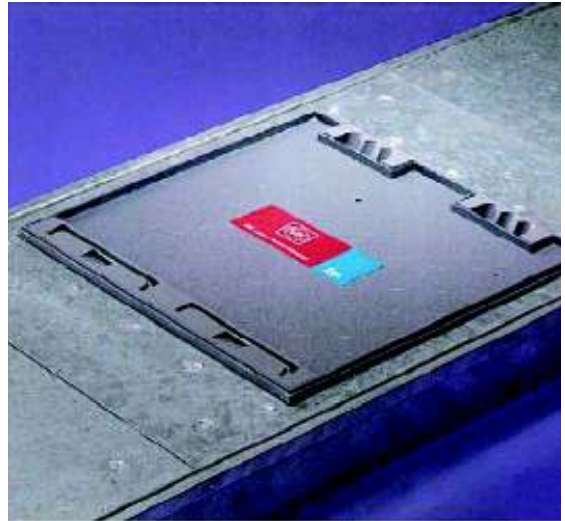
Trap frame is adjustable to suit the finished floor.

Trap cover hinges are designed to enable trap covers to be opened through 180 degrees.

Trap lifting handles and appliance cable outlets are on opposite sides to allow easy access of lifting handle. Cable outlets are provided for outgoing cables.

Trap cover has a 6mm recess for various floor finishes.

Model	Trap Covers Dimensions		Compartment	For Trunking Model
	L mm	B mm		
<b>FXS 125/1/1</b>	125	125	1	FXT 155/1
<b>FXS 125/2/2</b>	125	250	2	FXT 280/2
<b>FXS 250/1/1</b>	250	125	1	FXT 155/1
<b>FXS 250/2/1</b>	250	250	2	FXT 280/2
<b>FXS 250/3/1</b>	250	250	3	FXT 280/3
<b>FXS 375/3/2</b>	375	250	3	FXT 405/3



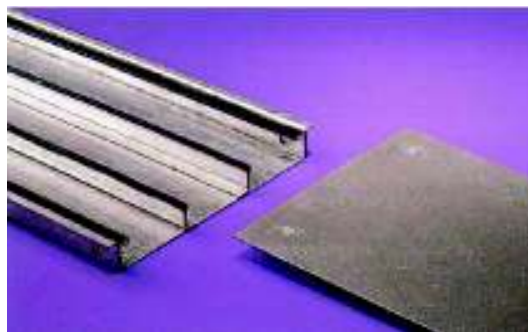
## Slim-line Flushfloor Trunking

Modular covers facilitate easy access to the cables for maintenance purposes.

High pressure zinc alloy die-cast pedestal outlet boxes can be installed on the covers.

Extruded PVC gaskets are used on flange edges and partitions to cushion the covers, thus reducing noise transmission when the covers are stepped upon.

The standard Slim-line flushfloor trunkings are supplied with screw-on type covers.



### TRUNKING SIZES

Length of Body : 2440mm

Length of Cover : 406.6mm (6 nos per trunking)

Width : 100mm - 1 compartment

100mm - 2 compartments

150mm - 1 compartments

150mm - 2 compartments

150mm - 3 compartments

200mm - 2 compartments

225mm - 3 compartments

300mm - 3 compartments

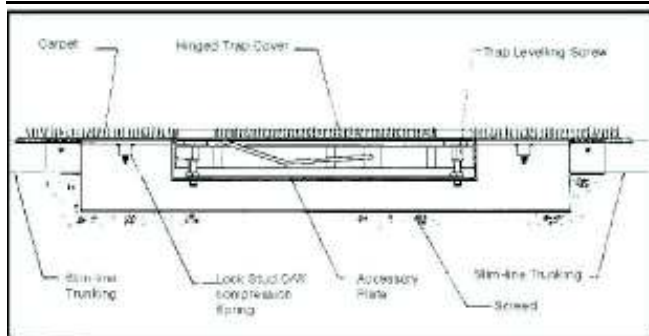
Depth: 28mm. Other sizes and compartment configurations are available on order.

Model	Trunking Size		Compartment	Compartment Size		
	W mm	H mm		1st mm	2nd mm	3rd mm
SLT 100/1	100	28	1	100	-	-
SLT 100/2	100	28	2	50	50	-
SLT 150/1	150	28	1	150	-	-
SLT 150/2	150	28	2	75	75	-
SLT 150/3	150	28	3	50	50	50
SLT 200/2	200	28	2	100	100	-
SLT 225/3	225	28	3	75	75	75
SLT 300/3	300	28	3	100	100	100

### TOLERANCE

All connections are subject to local tolerance during installation on site.

### CONCEALED SERVICE OUTLET BOX ADAPTORS



For Slim-line Flushfloor Trunking System, concealed service outlet box adaptors are available. The standard depth of the adaptor is 60mm. The service outlets are similar to the Flex-line FXS models. Due to the increase in depth required to facilitate the accessories, the screed or floor will need to be chased out to accept the adaptors.

Model	Service Outlet Size	Slimline Trunking Size
FXSA 250/3-225	250 x 250mm, 3 Cpmt	225 x 28mm, 3 Cpmt
FXSA 300/3-300	300 x 300mm, 3 Cpmt	300 x 28mm, 3 Cpmt
FXSA 375/3-360	360 x 250mm, 3 Cpmt	360 x 28mm, 3 Cpmt

Above are typical configurations only, other trunking size adaptors are available on application.

## Slim-line Junction and Vertical Access Box

### JUNCTION BOX

These slim-line junction boxes are designed to be used as a cross over or tee or elbow. These boxes are manufactured to suit the slim-line flushfloor trunking.

- Junction boxes are supplied with flyovers
- Body of boxes are manufactured from 1.6mm pre galvanized sheet steel
- Cover of junction boxes are manufactured from 2.5mm galvanized sheet steel.

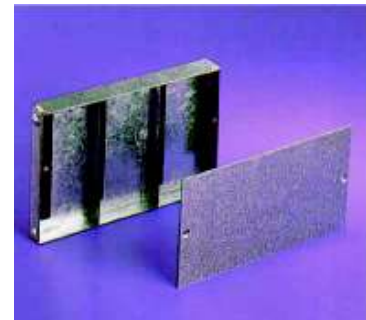


Model	Box Size			Compartment	Compartment Size		
	W1 mm	W2 mm	H mm		1st mm	2nd mm	3rd mm
SLJ 100/1C	100	100	28	1	100	-	-
SLJ 100/2C	100	100	28	2	50	50	-
SLJ 150/1C	150	150	28	1	150	-	-
SLJ 150/2C	150	150	28	2	75	75	-
SLJ 150/3C	150	150	28	3	50	50	50
SLJ 200/2C	200	200	28	2	100	100	-
SLJ 225/3C	225	225	28	3	75	75	75
SLJ 300/3C	300	300	28	3	100	100	100

Note: Other depths (H) and compartment configurations are available to order.

### VERTICAL ACCESS BOX

Model	Box Size			Com- partment	Compartment Size		
	L mm	H mm	D mm		1st mm	2nd mm	3rd mm
SLV 100/1	100	150	28	1	100	-	-
SLV 100/2	100	150	28	2	50	50	-
SLV 150/1	150	150	28	1	150	-	-
SLV 150/2	150	150	28	2	75	75	-
SLV 150/3	150	150	28	3	50	50	50
SLV 200/2	200	150	28	2	100	100	-
SLV 225/3	225	150	28	3	75	75	75
SLV 300/3	300	150	28	3	100	100	100



## Slim-line Accessories

### REDUCER



List No.	Description
SLR 300-225	Reducer 300 to 225mm 3 compartments
SLR 225-150	Reducer 225 to 150mm 3 compartments
SLR 200-150	Reducer 200 to 150mm 2 compartments
SLR 200-100	Reducer 200 to 100mm 2 compartments
SLR 150-100	Reducer 150 to 100mm 1 compartment

### END CAP



List No.	Description
SLE 100	End Cap for 100 x 28mm trunking
SLE 150	End Cap for 150 x 28mm trunking
SLE 200	End Cap for 200 x 28mm trunking
SLE 225	End Cap for 225 x 28mm trunking
SLE 300	End Cap for 300 x 28mm trunking



### COUPLING SLC1

Coupling for joining flushfloor trunking and also to facilitate earthing continuity. Standard size for all slim-line trunking.

# Raised Floor Trunking System

## General

The multi-way raised floor trunking system is designed to cater for the need of cable management in raised access floor. It provides a solution for distributing power, telecommunications and data services to users by way of floor outlet boxes. The distribution of telephone, power and computer services within raised floor shall be provided according to the layouts as shown on the specification drawings. For protection against corrosion the trunking system shall be coated with minimum 45 micron thickness of electrostatic oven baked, epoxy powder paint.

The interior of the components shall be free from sharp projections and be formed with intersections, bends, junctions and vertical access boxes that permit cables to be laid or drawn in without damages.

The trunkings, junction boxes with flyover units (for double and triple compartment only), vertical access boxes, trunking support brackets and service outlet boxes shall be proprietary made similar to "Raised Floor Trunking System" manufactured by MK Electric according to the enclosed schedule.

The 230 volts or 110 volts power cables for socket outlets should not be laid into the same compartment of the trunking for the telephone or the computer services.

Flyover (cross-over bridges) shall be provided in the intersections boxes with metal partitions through the trunkings to ensure adequate segregation for the three services.

Components shall be effectively earth bonded to one another by mechanical means utilising special earth bonding devices where required.

## Planning and Layout

### Planning

In the planning of the Raised Floor Trunking System layout, it is essential to establish the following information and requirement:

Introduction of trunking must begin at the distribution board of the floor concerned;

Determine the services, the capacity of the trunking and the junction boxes to be laid;

Trunking should be laid on the level of the structural slab;

For the raised floor trunking system, the extent to which a service outlet box can be equipped with facilities is determined by its dimensions. Our standard service outlet modular units are designed to meet the requirement of a normal workplace;

Our recessed service outlet covers can withstand the usual wear and tear from chairs fitted with castors.

### Layout

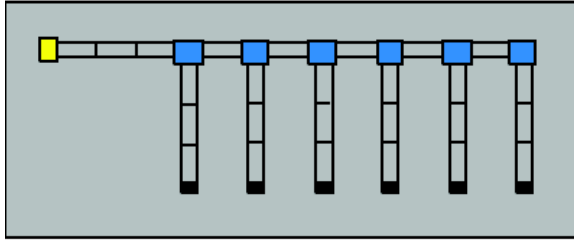
Depending on the desired flexibility, the ducting system is usually laid out on a grid, fishbone or comb pattern with double or triple compartment runs;





A grid pattern is recommended if the user requires a wide degree of flexibility. In any reorganisation of user's work areas, the grid patterned trunkings provide multiple options for cabling requirements;

A fishbone pattern is ideal for medium sized areas where less boxes are required;

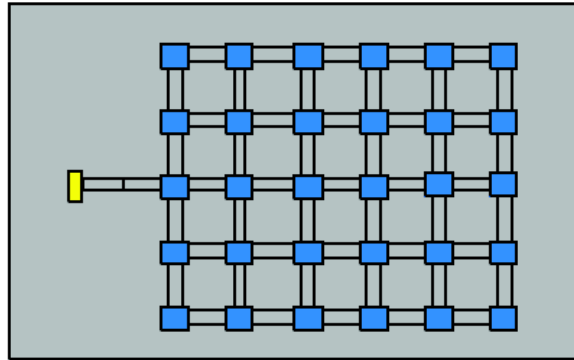
A comb pattern is most economical wherein less trunking is used.

A typical comb pattern

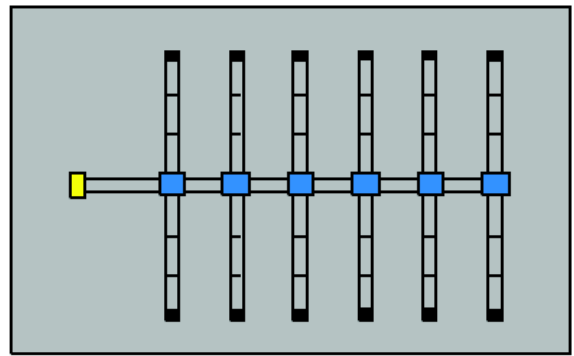


-  Vertical Access Box
-  Cross Junction Box
-  End Cap
-  Trunking

A typical grid pattern



A typical fishbone pattern



Raised Floor Trunking are fabricated to BS4678 Pt1: 1973

Material:

1mm - 1.6mm thick pregalvanized steel sheet to BS2989: 1982 without epoxy powder coating. OR  
1mm - 1.6mm thick cold-rolled or electrogalvanised (EG) steel sheet with oven baked epoxy powder coating.

Standard length:

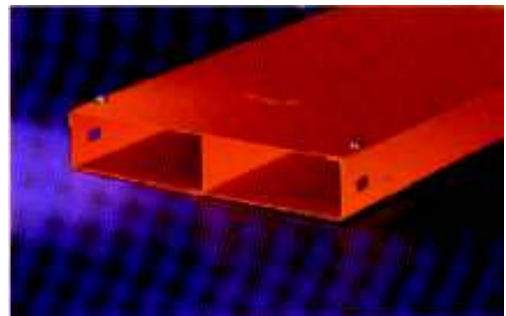
Covers - 1200mm (2 Nos per trunking)

Base - 2440mm

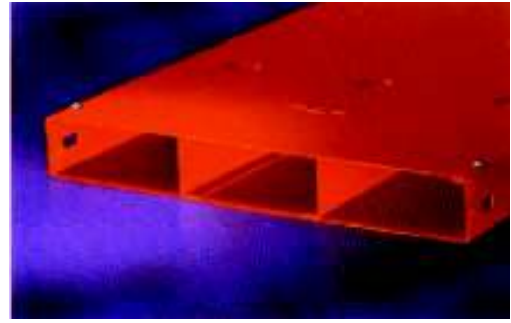
Standard depth:

38mm. Other width and depth sizes are also available

List No	Trunking Size	Compartment size		
		1 <sup>st</sup> mm	2 <sup>nd</sup> mm	3 <sup>rd</sup> mm
RMT 150/2	150 x 38mm 2 Compartments	75	75	-
RMT 200/2	200 x 38mm 2 Compartments	100	100	-
RMT 300/2	300 x 38mm 2 Compartments	150	150	-

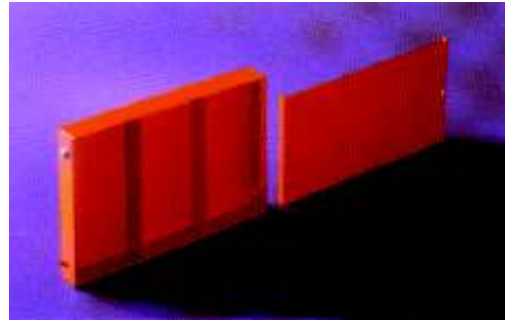


List No	Trunking Size	Compartment size		
		1 <sup>st</sup> mm	2 <sup>nd</sup> mm	3 <sup>rd</sup> mm
RMT 225/3	225 x 38mm 3 Compartments	75	75	75
RMT 300/3	300 x 38mm 3 Compartments	100	100	100
RMT 450/3	450 x 38mm 3 Compartments	150	150	150



### Vertical Access Box

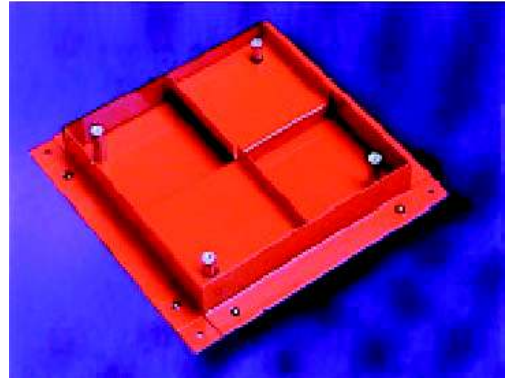
List No	Trunking Size	Description
RVB 150/2	150 x 200 x 50mm	2 Compartments
RVB 225/3	225 x 200 x 50mm	3 Compartments
RVB 200/2	200 x 200 x 50mm	2 Compartments
RVB 200/3	300 x 200 x 50mm	3 Compartments
RVB 300/2	300 x 200 x 50mm	2 Compartments
RVB 450/3	450 x 200 x 50mm	3 Compartments



### 4 - Way Junction Box

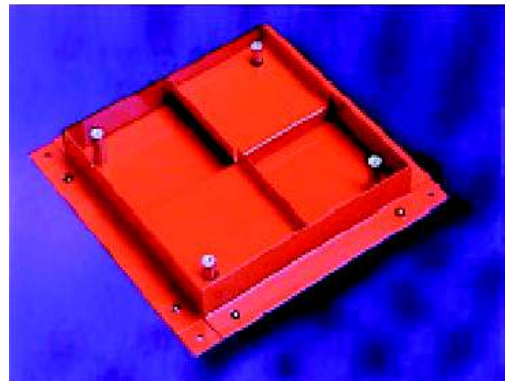
#### Double Compartment

List No	Trunking Size	Compartment size		
		1 <sup>st</sup> mm	2 <sup>nd</sup> mm	3 <sup>rd</sup> mm
RMJ 150/2C	150 x 38mm	75	75	-
RMJ 200/2C	200 x 38mm	100	100	-
RMJ 300/2C	300 x 38mm	150	150	-



#### Triple Compartment

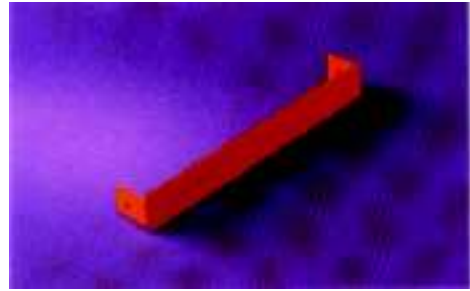
List No	Trunking Size	Compartment size		
		1 <sup>st</sup> mm	2 <sup>nd</sup> mm	3 <sup>rd</sup> mm
RMJ 225/3C	225 x 38mm	75	75	75
RMJ 300/3C	300 x 38mm	100	100	100
RMJ 450/3C	450 x 38mm	150	150	150



## Accessories

### End Cap

List No	Description
REC 150	End cap for 150 x 38mm trunking
REC 225	End cap for 225 x 38mm trunking
REC 100	End cap for 100 x 38mm trunking
REC 200	End cap for 200 x 38mm trunking
REC 300	End cap for 300 x 38mm trunking
REC 450	End cap for 450 x 38mm trunking



### Trunking Support Bracket (Adjustable type)

List No	Description
RTB 100A	For 100mm trunking
RTB 150A	For 150mm trunking
RTB 200A	For 200mm trunking
RTB 225A	For 225mm trunking
RTB 300A	For 300mm trunking
RTB 450A	For 450mm trunking



### Trunking Support Bracket (Fixed Height)

List No	Description
RTB 100F	For 100mm trunking
RTB 150F	For 150mm trunking
RTB 200F	For 200mm trunking
RTB 225F	For 225mm trunking
RTB 300F	For 300mm trunking
RTB 450F	For 450mm trunking



## Raised Floor Outlet Box



The raised floor outlet box incorporates many innovative features designed to speed up installation and provide the client with a safe and easy-to-use product.

Raised floor outlet boxes are normally secured within panels which can be located anywhere within an access floor.

Individual accessories plates are interchangeable, allowing any combination to be prepared. Blank plates are available for use where the precise requirements are unknown or future requirements cannot be determined in advance. They ensure that all boxes are complete when fitted.

The floor outlet boxes are supplied complete with texture, easy-to-clean frame and lid available in light grey colour.

The 'snap-in' lid, incorporating a steel reinforcing plate, is reversible and readily detaches from the frame when accidentally kicked or knocked. The top is recessed to accommodate up to 7mm thickness of carpet or a similar floor finish.

Access to the interior is by the use of a flush fitting handle.

Cables are guided by cable retainers through generous cable outlet which open automatically and lock into position when cables are present. Detachable cable retainers are mounted on the side of the frame to guide cables safely through the outlets in the lid.

The frame, which is also reversible, incorporates a unique ratchet system and is designed to be self-adjusting to any normal floor finish thickness. The frame is secured by hand operated ratchet bars which provide for quick and efficient installation and removal without the need for tools.

To remove the carpet frame, the ratchet bars on the opposite sides of the frame are pulled towards the centre of the box, releasing the pressure and allowing the frame to be lifted clear.

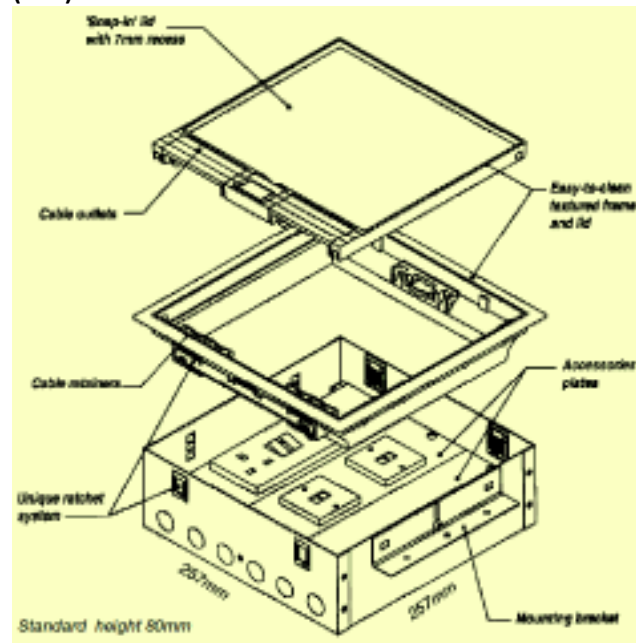
The accessories plates within the floor outlet box can be withdrawn from above by removing two screws, without first having to remove the floor outlet box. A wide range of power, telecommunication and data accessory plates are available.

The floor outlet boxes are supplied with an adjustable mounting bracket fixed to each of the two short sides. This is designed to allow the floor outlet box to be fixed from above or below the access floor panel. The minimal thickness of the bracket allows it to be concealed by the floor finish when mounted from above.

The MK floor outlet box is designed for use in any access floor system or for installation where the necessary clear void space is available.

A minimum depth of 100mm is normally recommended from the top of the access floor panel to the top of the structural slab.

NB The size of cutout for access floor panel is 258 x 258 (mm)



## Underfloor Ducting System

### Introduction

This Underfloor Ducting System is designed to enclose power, telephone and ancillary system service cables, facilitating distribution in commercial and other similar establishments.

Current commercial environments require multiple electrical circuitry for secretarial, accounting and complex communication facilities. Open plan office layouts and modern building methods need a versatile arrangement of services for easy installation and flexibility in use.

The Underfloor Ducting System is a solution for such cable management needs.

The system comprises four basic groups of equipment which can be used together to provide the desired underfloor configuration: underfloor ductings, service outlet boxes, junction boxes and vertical access units.

Facilities for wiring accessories to British Standard are offered although the outlet boxes can be adapted to accommodate either European or American accessories.

The system is intended for laying on the structural slab prior to the screed being poured. Screeding levels of between 55mm and 90mm can be accommodated and a minimum screed cover of 25mm is recommended over the ducting.

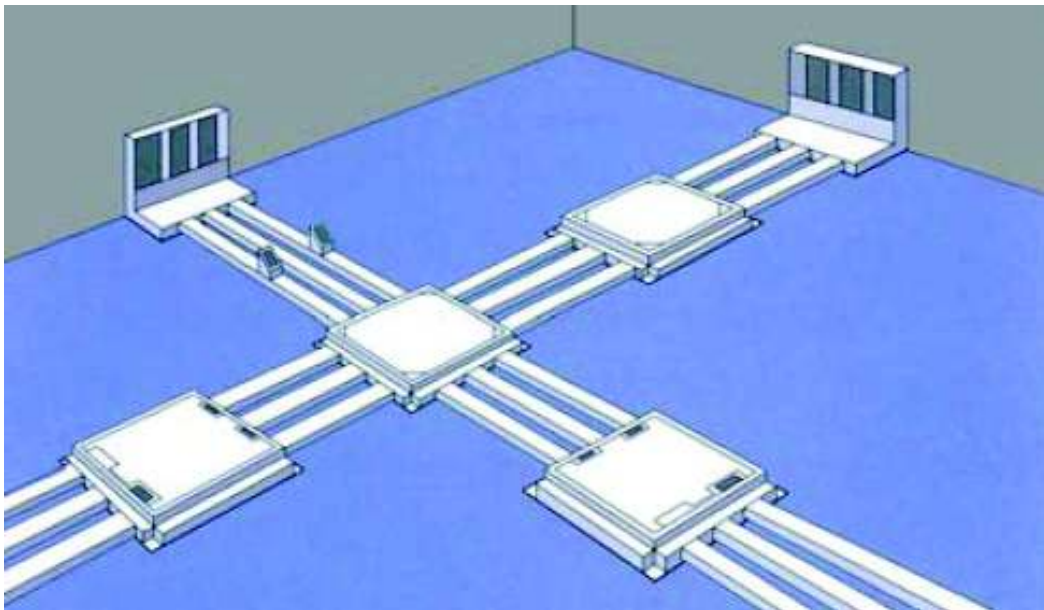
All junction and service boxes in the Underfloor Ducting Systems are manufactured from high pressure zinc alloy die-casting materials for strength and durability. Disposable casting lids are also supplied with all boxes. The trap cover for the service boxes are retained by hinges and grommets are supplied to prevent cable damage at exit positions.

### Authority

These products enable full compliance with the requirements of the current IEE regulations.

### Important Note

Where 55mm deep boxes are utilized, it is desirable to use slim pattern accessory plugs, with a maximum projection of 22mm to ensure that the box lid will close flat when the services are in use.



## Planning and Layout

Two parameters must be known before starting to design the system. Depending on the services to be installed, (1) whether a two or three duct system is required and (2) the depth of screed into which the system is to be installed. The minimum screed depth for Underfloor Ducting System is 55mm.

### Layout

In order that the installation may exhibit the desired flexibility, the ducting is usually laid out on a Grid, Fishbone or Comb Pattern of single, double or triple runs.

A Grid Pattern is widely used in areas where the occupants require a good degree of flexibility in reorganizing work areas. Capacity can be increased by returning individual ring mains through different runs of ducting which in itself makes for easier installation.

The Fishbone Pattern is ideal for a medium size area where lesser boxes are required.

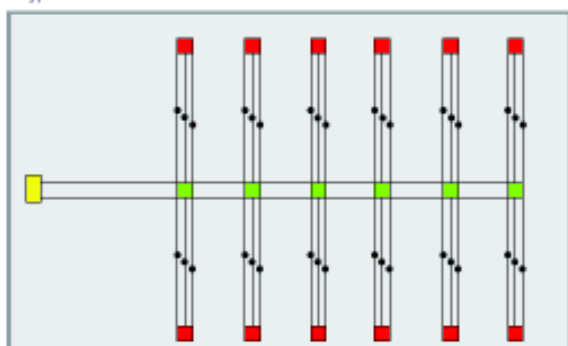
The Comb Pattern is the most economical way of installation wherein less ducting is used. It offers an extremely cost effective solution.

### Planning

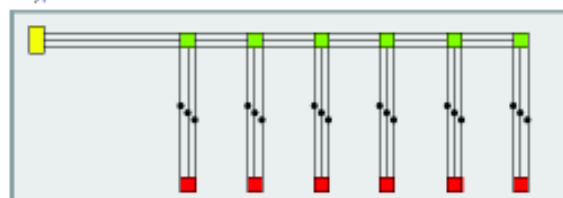
In designing the Underfloor Ducting System, it is essential to take into account the following:

- Introduction of ducting begins at the distribution board of the floor concerned.
- Determine the services, capacity of ducting and the junction boxes to be laid.
- Ducting should be laid onto level of structural slab and it requires minimum 25mm screed to cover the ducting.
- In long runs of ducting, access should be provided by using junction boxes as draw-in boxes. It is recommended that the distance between two junction boxes must not exceed 6 metres.
- The extent to which a service outlet box can be equipped with facilities is limited by its dimensions. Our standard service outlet boxes are designed to meet the requirements of a normal workplace.
- We recommend the use of carpeting with a backing of at least 2mm thick.
- Our protective edges for covers and carpets will withstand chairs fitted with castors.
- We recommend that duct outlets be incorporated along walkways. This will provide greater flexibility for future services requirements with the use of pedestal outlet boxes mounted on top.

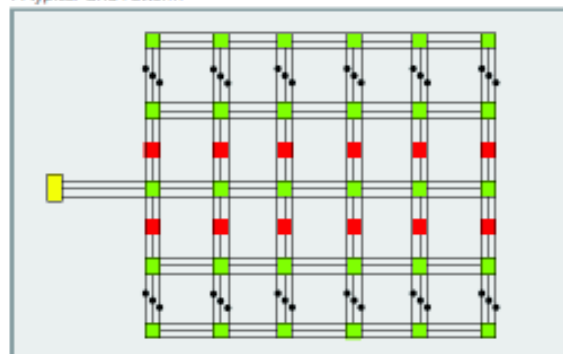
A typical Fishbone Pattern



A typical Comb Pattern



A typical Grid Pattern

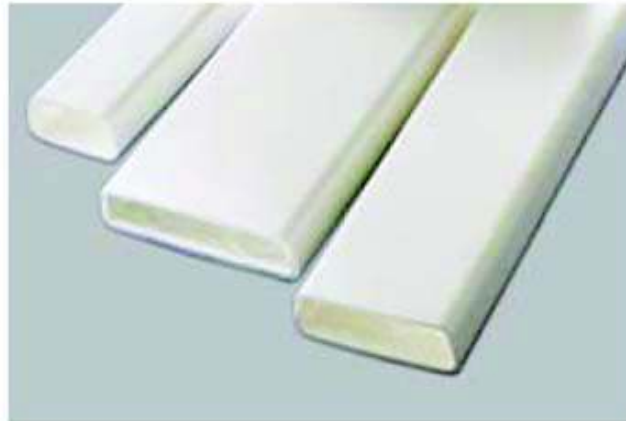


### UPVC Ducting and Accessories

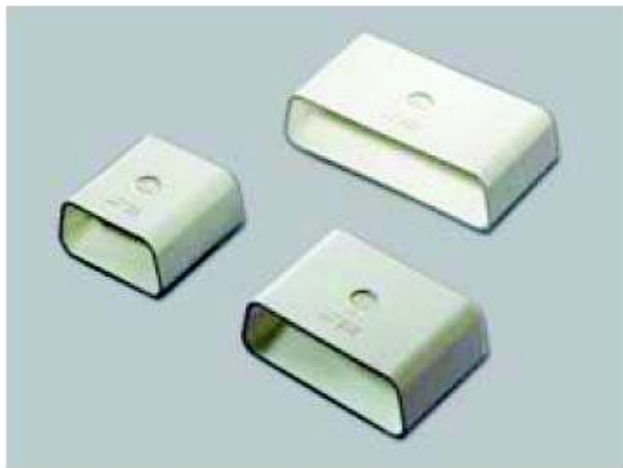
- Material : Heavy gauge super high impact uPVC
- Standard length : 2.9 metres
- Standard pack : 29 metres
- Pre-cut lengths can be arranged, subject to price confirmation and availability

#### uPVC Ducting

List No.	Description
UFD 125 W	50 x 25 x 2.5mm
UFD 232 W	75 x 25 x 3.2mm
UFD 332 W	100 x 25 x 3.2mm



#### Jointing Sleeve



List No.	Description
UJ 125 W	50 x 25 x 2.5mm
UJ 232 W	75 x 25 x 2.5mm
UJ 332 W	100 x 25 x 2.5mm

CROSS SECTION AREA (mm <sup>2</sup> ) OF CABLE	NUMBER OF CABLES		
	UFD 125 W	UFD 232 W	UFD 332 W
1.5	34	52	73
2.5	27	42	58
4	18	29	40
6	14	22	31
10	10	15	20
16	6	10	14

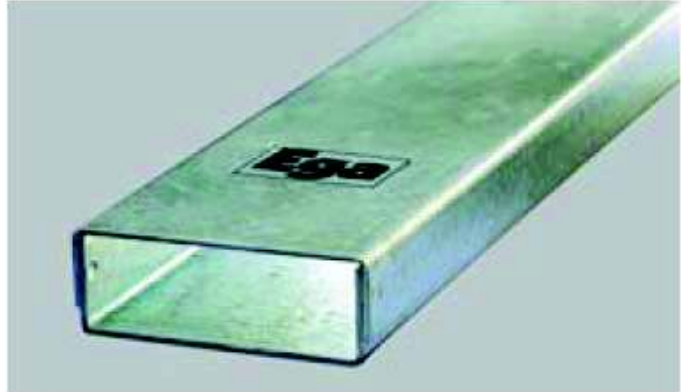
The table above indicates the cable carrying capacity of UFD duct systems, based on a 35% utilisation factor (as required) by the IEE Regulations using PVC-insulated multi strands cables to BS 6004 : 1969.

## Metal Ducting and Accessories

- Material : Pre-galvanised sheet steel
- Standard thickness : 1.6mm
- Standard lengths : 2.44 metres
- Single, twin or triple compartments
- Standard depths : 25mm, 32mm and 38mm
- Coupler has to be ordered separately
- Pre-cut lengths can be arranged, subject to price confirmation and availability
- Pre-punched duct outlet holes can also be arranged on order

## Metal Ducting

List No.	Description
UMD 50/1/6	50 x 25 x 1.6mm 1 compartment
UMD 75/1/6	75 x 25 x 1.6mm 1 compartment
UMD 100/1/6	100 x 25 x 1.6mm 1 compartment
UMD 100/2/6	100 x 25 x 1.6mm 2 compartments
UMD 150/2/6	150 x 25 x 1.6mm 2 compartments
UMD 150/3/6	150 x 25 x 1.6mm 3 compartments
UMD 200/2/6	200 x 25 x 1.6mm 2 compartments
UMD 225/3/6	225 x 25 x 1.6mm 3 compartments
UMD 275/2/6	275 x 25 x 1.6mm 2 compartments
UMD 275/3/6	275 x 25 x 1.6mm 3 compartments
UMD 300/3/6	300 x 25 x 1.6mm 3 compartments
UMD 375/3/6	375 x 25 x 1.6mm 3 compartments



List No.	Description
UMDH 50/1/6	50 x 32 x 1.6mm 1 compartment
UMDH 75/1/6	75 x 32 x 1.6mm 1 compartment
UMDH 100/1/6	100 x 32 x 1.6mm 1 compartment
UMDH 100/2/6	100 x 32 x 1.6mm 2 compartments
UMDH 150/2/6	150 x 32 x 1.6mm 2 compartments
UMDH 150/3/6	150 x 32 x 1.6mm 3 compartments
UMDH 200/2/6	200 x 32 x 1.6mm 2 compartments
UMDH 225/3/6	225 x 32 x 1.6mm 3 compartments
UMDH 275/2/6	275 x 32 x 1.6mm 2 compartments
UMDH 275/3/6	275 x 32 x 1.6mm 3 compartments
UMDH 300/3/6	300 x 32 x 1.6mm 3 compartments
UMDH 375/3/6	375 x 32 x 1.6mm 3 compartments



List No.	Description
UMDX 50/1/6	50 x 38 x 1.6mm 1 compartment
UMDX 75/1/6	75 x 38 x 1.6mm 1 compartment
UMDX 100/1/6	100 x 38 x 1.6mm 1 compartment
UMDX 100/2/6	100 x 38 x 1.6mm 2 compartments
UMDX 150/2/6	150 x 38 x 1.6mm 2 compartments
UMDX 150/3/6	150 x 38 x 1.6mm 3 compartments
UMDX 200/2/6	200 x 38 x 1.6mm 2 compartments
UMDX 225/3/6	225 x 38 x 1.6mm 3 compartments
UMDX 275/2/6	275 x 38 x 1.6mm 2 compartments
UMDX 275/3/6	275 x 38 x 1.6mm 3 compartments
UMDX 300/3/6	300 x 38 x 1.6mm 3 compartments
UMDX 375/3/6	375 x 38 x 1.6mm 3 compartments



### Fixing Clip (Pre-Galvanised Steel Sheet 1.2mm Thickness)

List No.	To Suit Ducts
UFC 150	1 no. UMD 50/1/6
UFC 250	2 nos UMD 50/1/6
UFC 350	3 nos UMD 50/1/6
UFC 175	1 no. UMD 75/1/6
UFC 275	2 nos UMD 75/1/6
UFC 375	3 nos UMD 75/1/6
UFC 1100	1 no. UMD 100/1/6 or 1 no. UMD 100/2/6
UFC 2100	2 nos UMD 100/1/6
UFC 3100	3 nos UMD 100/1/6
UFC 1150	1 no. UMD 150/2/6 or 1 no. UMD 150/3/6
UFC 1200	1 no. UMD 200/2/6
UFC 1225	1 no. UMD 225/3/6
UFC 1275	1 no. UMD 275/2/6 or 1 no. UMD 275/3/6
UFC 1300	1 no. UMD 300/3/6
UFC 1375	1 no. UMD 375/3/6



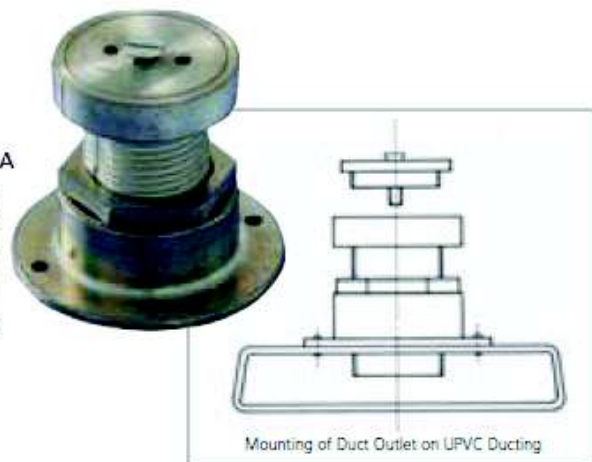
List No.	To Suit Ducts
UFCH 150	1 no. UMDH 50/1/6
UFCH 250	2 nos UMDH 50/1/6
UFCH 350	3 nos UMDH 50/1/6
UFCH 175	1 no. UMDH 75/1/6
UFCH 275	2 nos UMDH 75/1/6
UFCH 375	3 nos UMDH 75/1/6
UFCH 1100	1 no. UMDH 100/1/6 or 1 no. UMDH 100/2/6
UFCH 2100	2 nos UMDH 100/1/6
UFCH 3100	3 nos UMDH 100/1/6
UFCH 1150	1 no. UMDH 150/2/6 or 1 no. UMDH 150/3/6
UFCH 1200	1 no. UMDH 200/2/6
UFCH 1225	1 no. UMDH 225/3/6
UFCH 1275	1 no. UMDH 275/2/6 or 1 no. UMDH 275/3/6
UFCH 1300	1 no. UMDH 300/3/6
UFCH 1375	1 no. UMDH 375/3/6

List No.	To Suit Ducts
UFCX 150	1 no. UMDX 50/1/6
UFCX 250	2 nos UMDX 50/1/6
UFCX 350	3 nos UMDX 50/1/6
UFCX 175	1 no. UMDX 75/1/6
UFCX 275	2 nos UMDX 75/1/6
UFCX 375	3 nos UMDX 75/1/6
UFCX 1100	1 no. UMDX 100/1/6 or 1 no. UMDX 100/2/6
UFCX 2100	2 nos UMDX 100/1/6
UFCX 3100	3 nos UMDX 100/1/6
UFCX 1150	1 no. UMDX 150/2/6 or 1 no. UMDX 150/3/6
UFCX 1200	1 no. UMDX 200/2/6
UFCX 1225	1 no. UMDX 225/3/6
UFCX 1250	1 no. UMDX 250/3/6
UFCX 1275	1 no. UMDX 275/2/6 or 1 no. UMDX 275/3/6
UFCX 1300	1 no. UMDX 300/3/6
UFCX 1375	1 no. UMDX 375/3/6

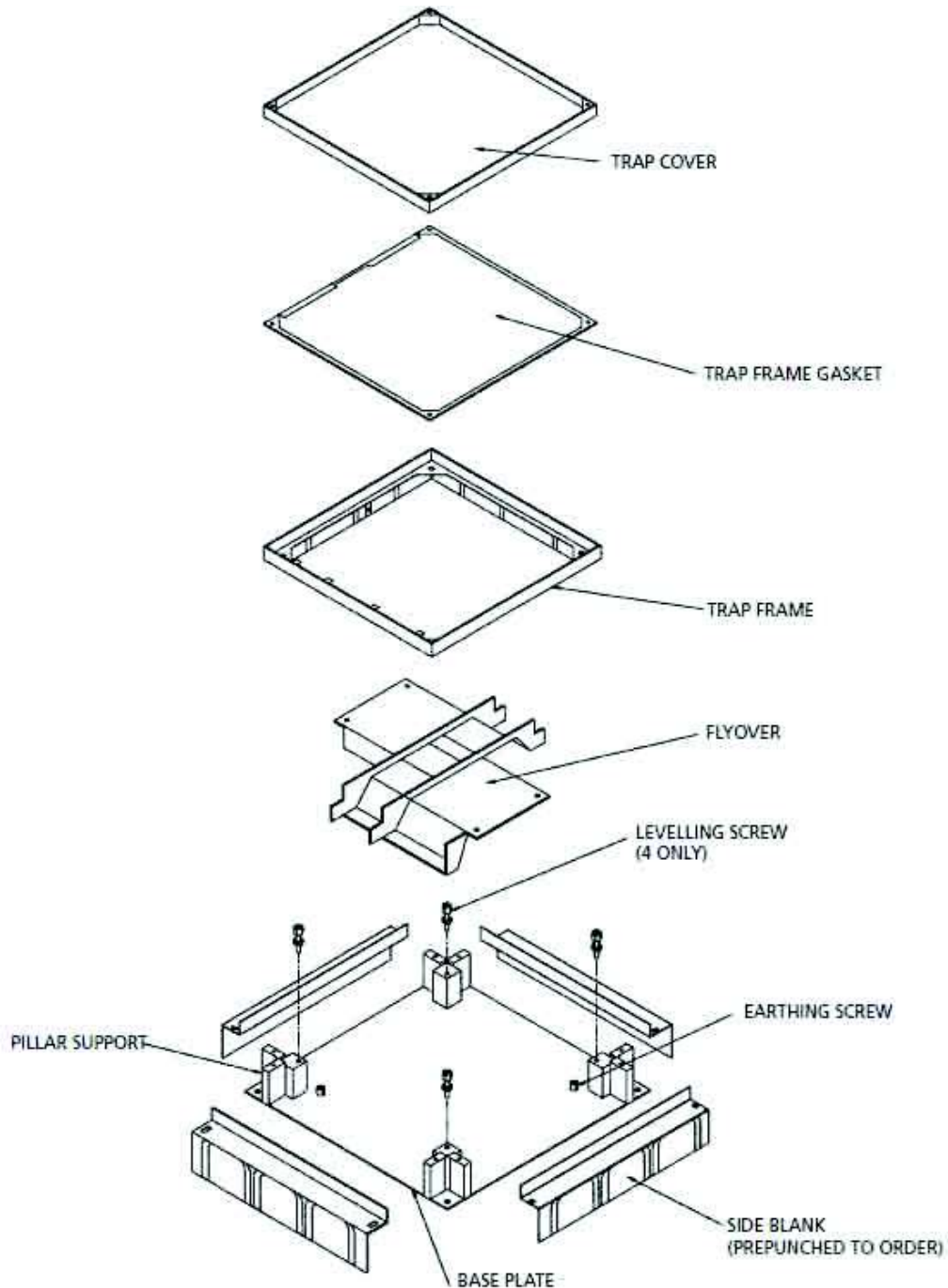
### Duct Outlet

(List No. UDO 125)

Duct outlets are used to connect ducting and pedestal outlets. EGA duct outlets are produced from high pressure die-cast zinc alloy which is durable, strong and rust resistant. The unit is adjustable to suit the screed depth up to 90mm and with internal threads which will accept 25mm conduit nipple for mounting pedestal outlet boxes. EGA duct outlets come with die-cast zinc alloy plugs and screw markers.



## Junction Box



- The underfloor junction box pillar supports, trap frames and traps covers are manufactured from high pressure zinc alloy die casting material for good mechanical strength and rust resistant.
- The base plate and side blanks are all made from pre-galvanised steel which has good protection against rust
- The trap frame and trap cover are epoxy coated to give a good protection on the visible parts.
- The flyover is fabricated from ABS materials for plastic type and electro-galvanised steel with epoxy coating for the steel type.

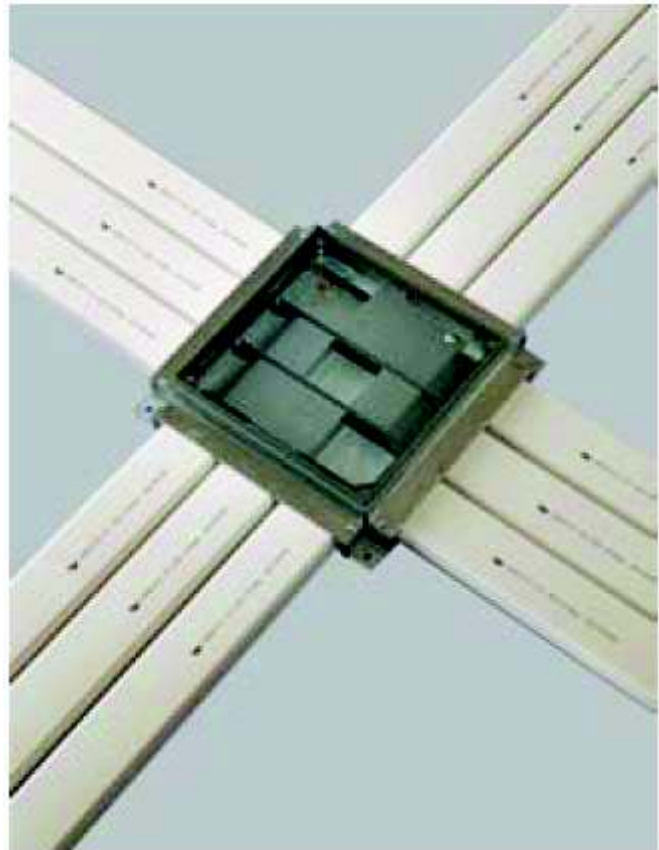
### Junction Box for Max. 38mm Depth Ductings

List No.	Description
LXJB 250/1	250 x 125 x 75mm -90mm 1 Compartment Consist of LXBJ 250/1 & JBS 250/1
LXJB 250/2	250 x 250 x 75mm -90mm 2 Compartments Consist of LXBJ 250/2 & JBS 250/2
LXJB 250/3	250 x 250 x 75mm -90mm 3 Compartments Consist of LXBJ 250/3 & JBS 250/3
LXJB 300/2	300 x 300 x 75mm -90mm 2 Compartments Consist of LXBJ 300/2 & JBS 300/2
LXJB 300/3	300 x 300 x 75mm -90mm 3 Compartments Consist of LXBJ 300/3 & JBS 300/3
LXJB 375/3	375 x 250 x 75mm -90mm 3 Compartments Consist of LXBJ 375/3 & JBS 375/3
LXJB 375/S/3	375 x 375 x 75mm -90mm 3 Compartments Consist of LXBJ 375S/3 & JBS 375S/3



### Junction Box for Max. 25mm Depth Ductings

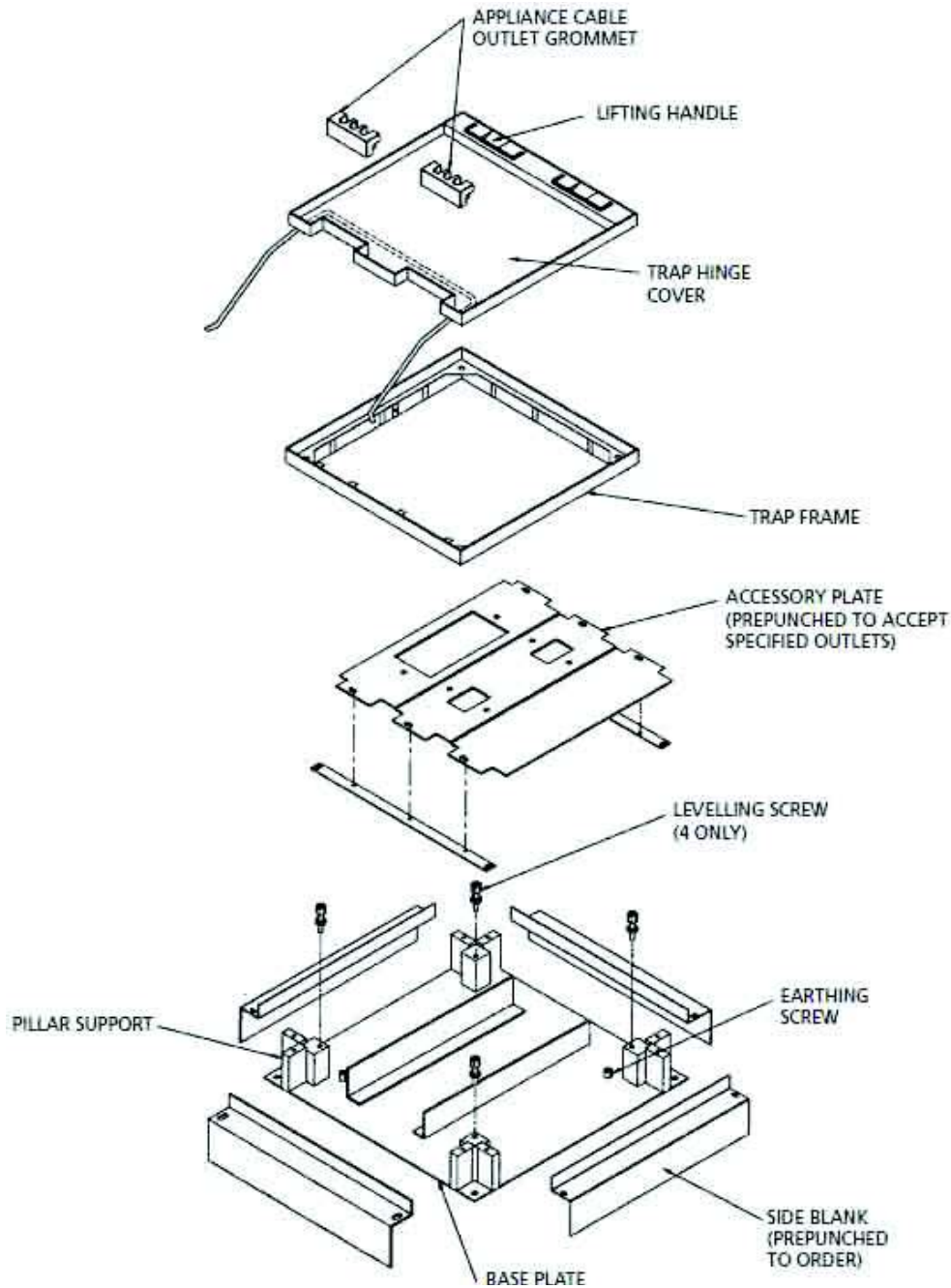
List No.	Description
LZJB 250/1	250 x 125 x 55 -70mm 1 Compartment Consist of LBBJ 250/1 & JBS 250/1
LZJB 250/2	250 x 250 x 55 -70mm 2 Compartments Consist of LBBJ 250/2 & JBS 250/2
LZJB 250/3	250 x 250 x 55 -70mm 3 Compartments Consist of LBBJ 250/3 & JBS 250/3
LZJB 300/2	300 x 300 x 55 -70mm 2 Compartments Consist of LBBJ 300/2 & JBS 300/2
LZJB 300/3	300 x 300 x 55 -70mm 3 Compartments Consist of LBBJ 300/3 & JBS 300/3
LZJB 375/3	375 x 250 x 55 -70mm 3 Compartments Consist of LBBJ 375/3 & JBS 375/3
LZJB 375/S/3	375 x 375 x 55 -70mm 3 Compartments Consist of LBBJ 375S/3 & JBS 375S/3



### Junction Box for Max. 32mm Depth Ductings

List No.	Description
LHJB 250/1	250 x 125 x 75 -90mm 1 Compartment Consist of LHBJ 250/1 & JBS 250/1
LHJB 250/2	250 x 250 x 75 -90mm 2 Compartments Consist of LHBJ 250/2 & JBS 250/2
LHJB 250/3	250 x 250 x 75 -90mm 3 Compartments Consist of LHBJ 250/3 & JBS 250/3
LHJB 300/2	300 x 300 x 75 -90mm 2 Compartments Consist of LHBJ 300/2 & JBS 300/2
LHJB 300/3	300 x 300 x 75 -90mm 3 Compartments Consist of LHBJ 300/3 & JBS 300/3
LHJB 375/3	375 x 250 x 75 -90mm 3 Compartments Consist of LHBJ 375/3 & JBS 375/3
LHJB 375/S/3	375 x 375 x 75 -90mm 3 Compartments Consist of LHBJ 375S/3 & JBS 375S/3

## Service Outlet Box



- The underfloor service outlet box pillar supports, the base plate and side blanks are all made from pre-galvanised steel which has good protection against rust.
- The trap frame and trap cover are epoxy coated to give a good protection on the visible parts.

### Service Box for Max. 25mm Depth Ductings

List No.	Description
LZSB 125/1/1	125 x 125 x 55 -70mm 1 Compartment 1 Trap Consist of LBBS 125/1 & SBS 125/1/1
LZSB 125/2/2	250 x 125 x 55 -70mm 2 Compartments 2 Traps Consist of LBBS 250/1 & SBS 125/2/2
LZSB 250/1/1	250 x 125 x 55 -70mm 1 Compartment 1 Trap Consist of LBBS 250/1 & SBS 250/1/1
LZSB 250/2/1	250 x 250 x 55 -70mm 2 Compartments 1 Trap Consist of LBBS 250/2 & SBS 250/2/1
LZSB 250/2/2	250 x 250 x 55 -70mm 2 Compartments 2 Traps Consist of LBBS 250/2 & SBS 250/2/2
LZSB 250/3/1	250 x 250 x 55 -70mm 3 Compartments 1 Trap Consist of LBBS 250/3 & SBS 250/3/1
LZSB 300/2/1	300 x 300 x 55 -70mm 2 Compartments 1 Trap Consist of LBBS 300/2 & SBS 300/2/1
LZSB 300/3/1	300 x 300 x 55 -70mm 3 Compartments 1 Trap Consist of LBBS 300/3 & SBS 300/3/1
LZSB 375/3/2	375 x 250 x 55 -70mm 3 Compartments 2 Traps Consist of LBBS 375/3 & SBS 375/3/2
LZSB 375/3/3	375 x 250 x 55 -70mm 3 Compartments 3 Traps Consist of LBBS 375/3 & SBS 375/3/3



### Service Box for Max. 32mm Depth Ductings

List No.	Description
LHSB 125/1/1	125 x 125 x 75 -90mm 1 Compartment 1 Trap Consist of LHBS 125/1 & SBS 125/1/1
LHSB 125/2/2	250 x 125 x 75 -90mm 2 Compartments 2 Traps Consist of LHBS 250/1 & SBS 125/2/2
LHSB 250/1/1	250 x 125 x 75 -90mm 1 Compartment 1 Trap Consist of LHBS 250/1 & SBS 250/1/1
LHSB 250/2/1	250 x 250 x 75 -90mm 2 Compartments 1 Trap Consist of LHBS 250/2 & SBS 250/2/1
LHSB 250/2/2	250 x 250 x 75 -90mm 2 Compartments 2 Traps Consist of LHBS 250/2 & SBS 250/2/2
LHSB 250/3/1	250 x 250 x 75 -90mm 3 Compartments 1 Trap Consist of LHBS 250/3 & SBS 250/3/1
*LHSB 300/2/1	300 x 300 x 75 -90mm 2 Compartments 1 Trap Consist of LHBS 300/2 & SBS 300/2/1
*LHSB 300/3/1	300 x 300 x 75 -90mm 3 Compartments 1 Trap Consist of LHBS 300/3 & SBS 300/3/1
LHSB 375/3/2	375 x 250 x 75 -90mm 3 Compartments 2 Traps Consist of LHBS 375/3 & SBS 375/3/2
LHSB 375/3/3	375 x 250 x 75 -90mm 3 Compartments 3 Traps Consist of LHBS 375/3 & SBS 375/3/3

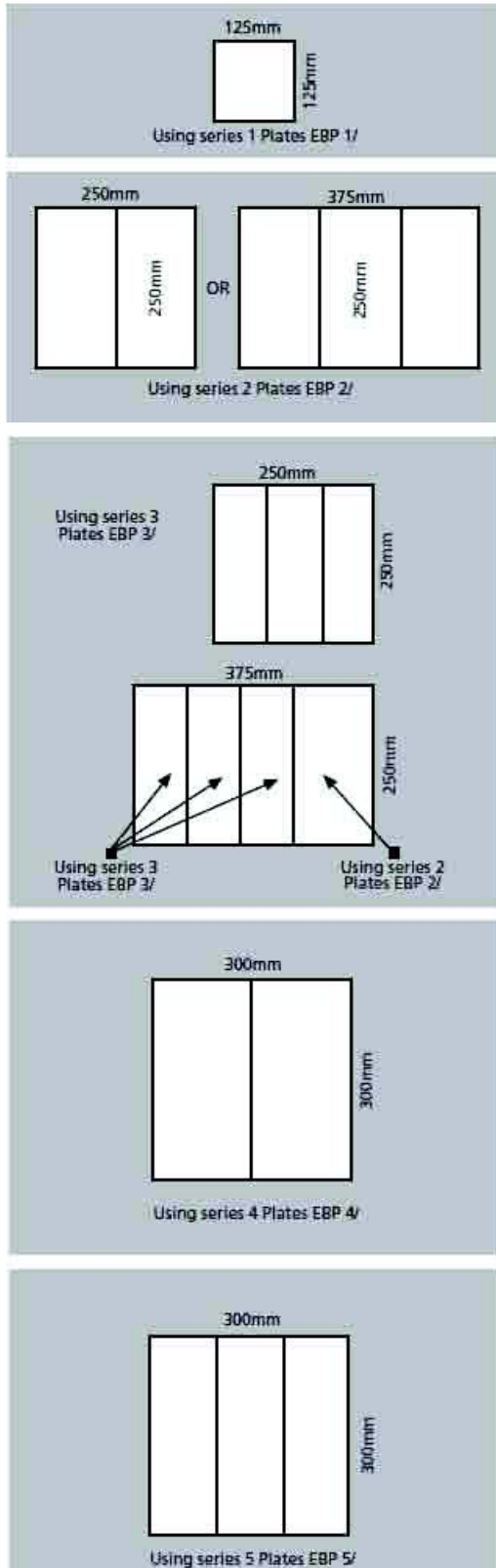
### Service Box for Max. 38mm Depth Ductings

List No.	Description
LXSB 125/1/1	125 x 125 x 75 -90mm 1 Compartment 1 Trap Consist of LXBS 125/1 & SBS 125/1/1
LXSB 125/2/2	250 x 125 x 75 -90mm 2 Compartments 2 Traps Consist of LXBS 250/1 & SBS 125/2/2
LXSB 250/1/1	250 x 125 x 75 -90mm 1 Compartment 1 Trap Consist of LXBS 250/1 & SBS 250/1/1
LXSB 250/2/1	250 x 250 x 75 -90mm 2 Compartments 1 Trap Consist of LXBS 250/2 & SBS 250/2/1
LXSB 250/2/2	250 x 250 x 75 -90mm 2 Compartments 2 Traps Consist of LXBS 250/2 & SBS 250/2/2
LXSB 250/3/1	250 x 250 x 75 -90mm 3 Compartments 1 Trap Consist of LXBS 250/3 & SBS 250/3/1
*LXSB 300/2/1	300 x 300 x 75 -90mm 2 Compartments 1 Trap Consist of LXBS 300/2 & SBS 300/2/1
*LXSB 300/3/1	300 x 300 x 75 -90mm 3 Compartments 1 Trap Consist of LXBS 300/3 & SBS 300/3/1
LXSB 375/3/2	375 x 250 x 75 -90mm 3 Compartments 2 Traps Consist of LXBS 375/3 & SBS 375/3/2
LXSB 375/3/3	375 x 250 x 75 -90mm 3 Compartments 3 Traps Consist of LXBS 375/3 & SBS 375/3/3

\* 12mm recess cover for ceramic tile is available.

## Service Outlet Box Accessories

### Floor Boxes



Accessory description and list No

#### BLANK PLATES

- Blank plate for use with LZSB 125/1/1
- Blank plate for use with LZSB 250/2/1 or LZSB 375/2/2 or LZSB 375/3/3
- Blank plate for use with LZSB 250/3/1
- Blank plate for use with LZSB 300/2/1 Blank plate for use with LZSB 3003/1

#### PLATES FOR 13A POWER ACCESSORIES

- For one 2531 WHI (1 gang Panel Mounting 13A Switchsocket)
- For two 2531 WHI (1 gang Panel Mounitng 13A Switchsocket)
- For one 2532 WHI (2 gang Panel Mounting 13A Switchsocket)
- For one 1 gang LOGIC accessory
- For two 1 gang LOGIC accessories
- For one 2939 WHI (2 gang MINILOGIC 13A Switchsocket)

#### COMBINATION PLATES FOR 13APOWER WITH TELECOM ACCESSORIES

- For one MK 2531 WHI (1 gang Panel Mounting 13A Switchsocket) and one 2917 WHI (1 gang MINILOGIC American Telephone Socket)

#### PLATES FOR TELECOM/DATA ACCESSORIES

- For one 2917 WHI (1 gang MINILOGIC Telephone Socket American Type)
- For two 2917 WHI (1 gang MINILOGIC Telephone Socket American Type)
- For one GX5453 WHI & GX5454 WHI (1 gang MINILOGIC Data Computer Outlet)Cutout for American Type Face Plate

FOR 125 X 125MM 1 COMPARTMENT BOX	FOR 250 X 250MM 2 COMPARTMENT BOXES OR 375 X 250MM 3 COMPARTMENTS BOXES	FOR 250 X 250MM 3 COMPARTMENT BOXES OR 375 X 250MM 4 COMPARTMENT BOXES	FOR 300 X 300MM 2 COMPARTMENT BOXES	FOR 300 X 300MM 3 COMPARTMENT BOXES
---	--	---	---	---

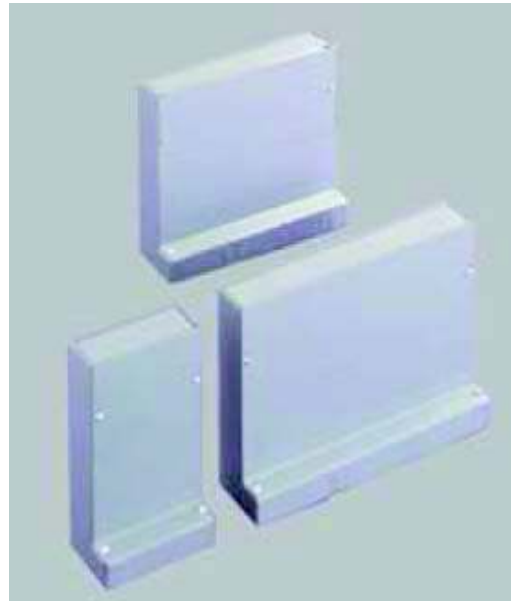
<i>Series 1 Plate List No.</i>	<i>Series 2 Plate List No.</i>	<i>Series 3 Plate List No.</i>	<i>Series 4 Plate List No.</i>	<i>Series 5 Plate List No.</i>
EBP 1/01				
	EBP 2/01			
		EBP 3/01		
			EBP 4/01	
				EBP 5/01
EBP 1/02	EBP 2/02	EBP 3/02	EBP 4/02	EBP 5/02
	EBP 2/21	EBP 3/27	EBP 4/21	EBP 5/27
	EBP 2/03	EBP 3/03	EBP 4/03	EBP 5/03
EBP 1/03	EBP 2/04		EBP 4/04	EBP 5/43
	EBP 2/14	EBP 3/41	EBP 4/14	EBP 5/41
	EBP 2/42R	EBP 3/05R		EBP 5/05R
	EBP 2/24	EBP 3/34	EBP 4/24	EBP 5/34
EBP 1/05	EBP 2/07	EBP 3/04	EBP 4/07	EBP 5/04
	EBP 2/08	EBP 3/08	EBP 4/08	EBP 5/08
	EBP 2/73 ACC	EBP 3/73 ACC		EBP 5/73 ACC
	EBP 2/65	EBP 3/65		EBP 5/60

### Vertical Access Boxes & Pedestal Outlet Boxes

The vertical access box helps to facilitate easy accessibility from floor ducts to wall ducts. This is for connections to distribution boards or other floors.

#### Vertical Access Box for Max. 25mmDepth Ductings

List No.	Description
LVB 125/1 or EVB 125/1	125 x 200 x 50mm 1 compartment
LVB 250/2 or EVB 250/2	250 x 200 x 50mm 2 compartments
LVB 250/3 or EVB 250/3	250 x 200 x 50mm 3 compartments
LVB 300/2 or EVB 300/2	300 x 200 x 50mm 2 compartments
LVB 300/3 or EVB 300/3	300 x 200 x 50mm 3 compartments
LVB 375/3 or EVB 375/3	375 x 200 x 50mm 3 compartments
LVB 400/3 or EVB 400/3	400 x 200 x 50mm 3 compartments



#### Vertical Access Box for Max. 32mmDepth Ductings

List No.	Description
EHVB 125/1	125 x 250 x 50mm 1 compartment
EHVB 250/2	250 x 250 x 50mm 2 compartments
EHVB 250/3	250 x 250 x 50mm 3 compartments
EHVB 300/2	300 x 250 x 50mm 2 compartments
EHVB 300/3	300 x 250 x 50mm 3 compartments
EHVB 375/3	375 x 250 x 50mm 3 compartments
EHVB 400/3	400 x 250 x 50mm 3 compartments

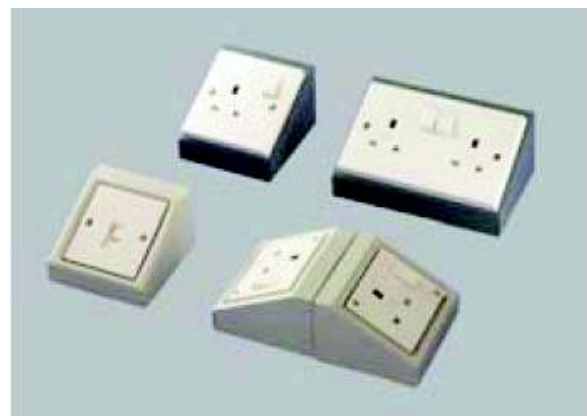
#### Vertical Access Box for Max. 38mm Depth Ductings

List No.	Description
EXVB 125/1	125 x 250 x 50mm 1 compartment
EXVB 250/2	250 x 250 x 50mm 2 compartments
EXVB 250/3	250 x 250 x 50mm 3 compartments
EXVB 300/2	300 x 250 x 50mm 2 compartments
EXVB 300/3	300 x 250 x 50mm 3 compartments
EXVB 375/3	375 x 250 x 50mm 3 compartments
EXVB 400/3	400 x 250 x 50mm 3 compartments

#### Pedestal Outlet Boxes

In locations where concealed service boxes are not available, pedestal boxes can be mounted to accommodate power, telephone or computer sockets. The pedestal boxes are produced from high pressure cast alloy which is strong and resistant to rust, or electro-galvanized steel with epoxy coating.

List No.	Description
EPO 1	For single gang socket
EPO 2	For two gang sockets



## Specifier's Guide

### The Underfloor Ducting System

#### GENERAL

The Underfloor Ducting System suitable for the distribution of telephone, power and computer services within floor screed shall be provided in accordance with the layouts as show on the specification drawings. The system shall comprise single or multi-way extruded trapezoidal form ducts made of rigid, non-corrodible, heave gauge uPVC (unplasticised polyvinyl chloride) with minimum wall thickness of 2.5mm for 50mm width and 3.2mm thickness for 75mm width and above. To form the whole system, rectangular shape, pre-galvanised steel metal ducts with minimum sheet thickness of 1.6mm must be used. Junction boxes, service outlets, duct outlets and pedestal outlet boxes shall be fabricated from high tensile strength, pressure die cast zinc alloy material. Accessories shall consist of mounting plates, vertical access boxes, jointing sleeves, fixing clips and flyovers. The system shall be proprietary made similar to "The Underfloor Ducting System" manufactured by MK Electric.

The power cable for power socket outlets should not be drawn into the same single compartment duct as the telephone cables or computer cables for computer services. Multi-compartments ducting and junction boxes with flyovers (cross-over bridges) shall be provided to ensure segregation of these three services.

The system shall comprise of the following components:

#### 1. Junction Boxes and Service Outlet Boxes

The junction boxes and service outlet boxes pillar supports shall be constructed from high tensile strength, zinc alloy materials. It should be riveted onto a 1.2mm thick pre-galvanised steel base plate. An earth wire connector must be provided for all the boxes.

#### 2. Trap Frames and Covers

The trap frames and covers shall be constructed from high tensile strength, pressure injection zinc alloy die cast material. It should be further protected by an electrostatically coated high temperature oven baked epoxy powder coating to protect all visible parts from stains as well as to add aesthetics to the units. Covers for junction boxes shall be secured by countersunk nickel plated brass screws and designed with 6mm recess to receive vinyl tiles or carpets. Covers for service outlet boxes shall be provided with suitable hinges designed to open through 180 degrees, giving access always to the power, telephone and data outlets. It should have a 6mm recess to receive vinyl tiles or carpets. A casting cover (disposable screeding lid) shall be provided to keep the actual cover clean and undamaged during installation. All boxes shall be adjustable in height independently with hexagonal head nickel plated brass bolts for easy adjustment and to take account of difference in floor thickness. Adequate segregation shall be provided between service runs within junction boxes by using flyovers (cross over bridges). Cables emerging from service boxes shall be protected against damages by means of PVC cable exit grommets and shall be reversible to 'close' position when not in use. All covers must be provided with a stud for earth wire connection.

#### 3. uPVC Ductings

uPVC ducting shall be rigid and extruded from super high impact, heavy gauge uPVC (unplasticised polyvinyl chloride) into trapezoidal shape with height not more than 25mm and width of 50mm, 75mm or 100mm. The ducting wall thickness shall be 2.5mm, 3.2mm and 3.2mm respectively.

#### 4. Metal Ductings

Rectangular formed metal ductings shall be fabricated from 1.6mm thick pre-galvanised steel sheets. The top and bottom plates shall be double folded and spot welded together to the full height of the ductings to give the required rigidity and at the same time to prevent seepage of concrete or screed water. Metal jointing sleeves with locking screws for grounding purpose must be provided.

#### 5. Duct Outlets (Pedestal Connections)

Duct outlets as detailed on the drawing shall be provided. This pedestal connection shall be manufactured from high tensile strength, pressure injection zinc alloy die cast material. It must be designed for easy installation, rigidity and mechanical strength. The duct outlets shall be supplied with adjustable screw studs for easy adjustment and levelling to suit the required finished floor level.

#### 6. Pedestal Outlet Boxes

The pedestal outlet boxes shall be manufactured from high tensile strength, pressure injection zinc alloy die-cast material and fitted with an earth wire connector. The unit must be easy for installation onto the duct outlet. The pedestal outlet boxes must be stain-proof with a high temperature, oven baked epoxy powder coating with the required colour to suit the surrounding colour scheme or architect's choice.

## Installation Guide



1. Determine floor box location and then fasten with bolts and nuts



2. Peel off the pre-punched knock-outs at the side blank plate before laying the ductings



3. Fasten the side blank plate



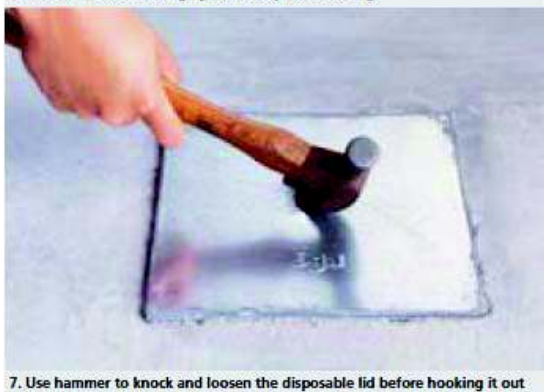
4. Use steel fixing clips to secure the ductings



5. The Underfloor Ducting System ready for screeding



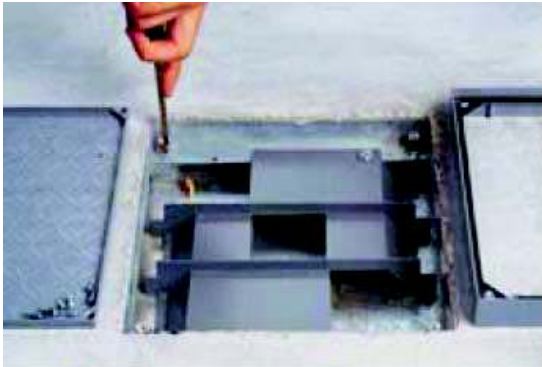
6. After screeding has cured



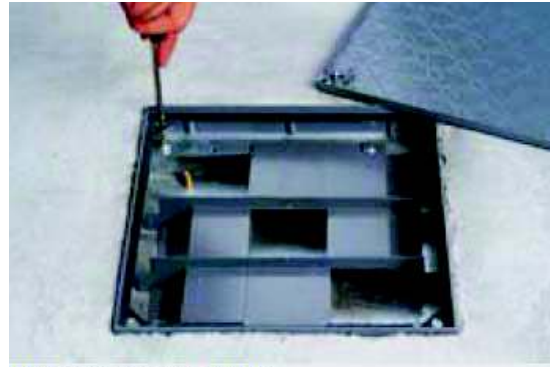
7. Use hammer to knock and loosen the disposable lid before hooking it out



8. Clean the base box before laying of cable



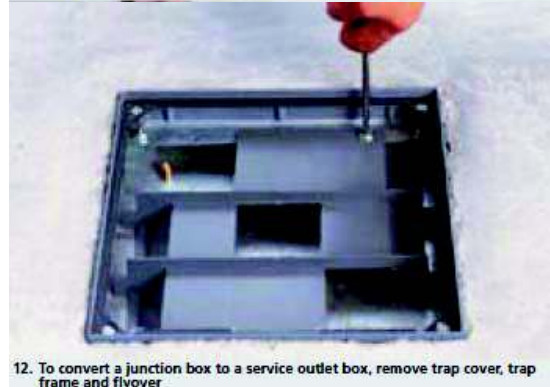
9. To adjust the 4 leveling screws to meet the finished level



10. Mount the trap frame (Junction Box)



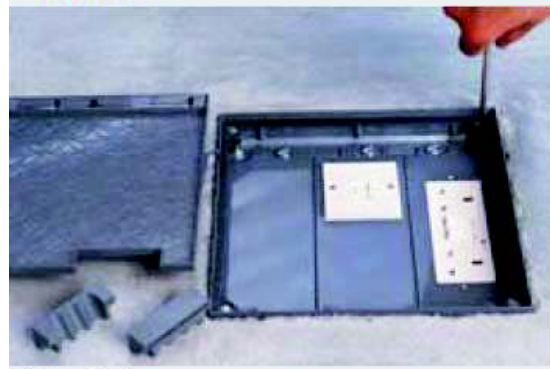
11. Mount the trap cover (Junction Box)



12. To convert a junction box to a service outlet box, remove trap cover, trap frame and flyover



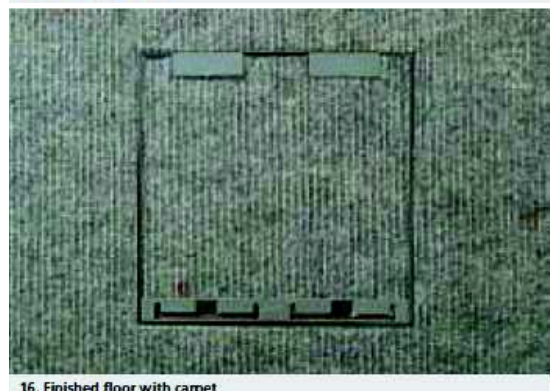
13. Install accessory plates



14. Mount trap frames

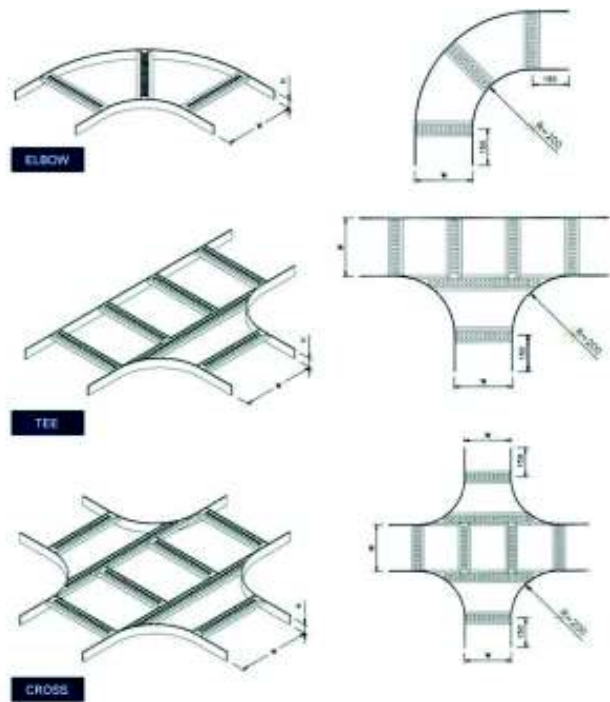
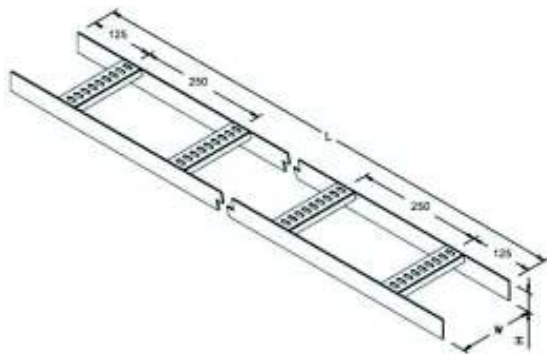


15. Mount trap cover



16. Finished floor with carpet

# MARINE LADDER



SIZE				RUNG SPACING	TYPE	VIEW
Width (w)	High (H)	Length (L)	Thick (T)			
100	38	3000	4.5	250	STRAIGHT	
150						
200						
250						
300					ELBOW	
400						
500						
600					TEE	
700						
800						
1000						
					CROSS	

## Metal Flexible conduit Adaptor (Control Box Adaptor)



Unit: mm	Item No.	thread	Mounting Hole	Suitable for metal flexible Conduit	Packing
	NBG-02	M16x1.5	15.5	<a href="#">MCR-02 (1/4")</a>	50 pcs / Bag
	NBG-03	M16x1.5	15.5	<a href="#">MCR-03 (3/8")</a>	
	NBG-04	PT 1/2"	20.9	<a href="#">MCR-04 (1/2")</a>	
	NBG-05	PT 1/2"	20.9	<a href="#">MCR-05 (5/8")</a>	
	NBG-06	PT 3/4"	26.4	<a href="#">MCR-06 (3/4")</a>	
	NBG-08	PT 1"	33.2	<a href="#">MCR-08 (1.0")</a>	30 pcs / Bag
	NBG-10	PT 1 1/4"	41.9	<a href="#">MCR-10 (1.0 1/4")</a>	20 pcs / Bag
	NBG-12	PT 1 1/2"	47.8	<a href="#">MCR-12 (1.0 1/2")</a>	10 pcs / Bag
	NBG-16	PT 2"	59.6	<a href="#">MCR-16 (2.0")</a>	5 pcs / Bag
	NBG-20	PT 2 1/2"	75.1	<a href="#">MCR-20 (2.0 1/2")</a>	1 pcs / Bag
	NBG-24	PT 3"	87.8	<a href="#">MCR-24 (3.0")</a>	
	NBG-32	PT 4"	113.0	<a href="#">MCR-32 (4.0")</a>	

## Flexible Conduit Adaptor



Material: UL approved Nylon 66, 94V-2.

Color: Grey.

Constructed of three parts to fix flexible conduit in control panel, machinery and apparatus.

Application:

1. Mount body to pre-drilled panel hole.
2. Insert conduit through nut.
3. Insert conduit to claw and fix it with nut to complete works.

Unit: mm	Item No.	Mouthing Hole D1	D2	D3	L1	L2	L3	Conduit Suitable	Packing
	BG-16	15.9	11.0	10.8	10.0	17.9	15.7	BG-16P	25 pcs / Bag
	BG-20	19.2	15.0	14.7	10.0	17.7	16.0	BG-20P	
	BG-26	25.0	18.9	19.8	11.4	23.6	20.6	BG-26P (3/4")	
	BG-32	31.2	26.0	24.3	12.0	22.8	20.6	BG-32P	
	BG-40	37.5	31.5	31.6	11.3	23.6	20.7	BG-40P	
	BG-50	44.0	37.5	39.5	12.6	21.6	20.7	BG-50P	

## Metal Flexible Conduit



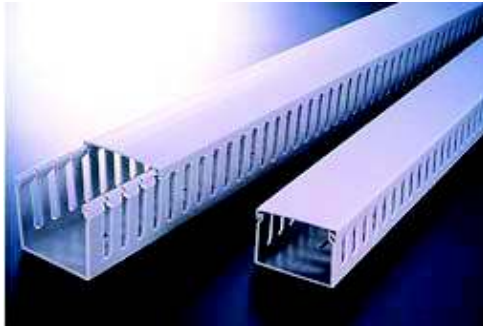
Material: metal with PVC tube.

Waterproof, high tensile strength. Good resistance in bending, erosion and high heat.



Unit: mm	Item No.	I.D.		O.D.	Packing
		inch	mm		
	MCR-02	1/4"	6.5	11.0	100 M / Roll
	※ MCR-03	3/8"	10.0	14.5	50 M / Roll
	※ MCR-04	1/2"	12.6	16.2	
	※ MCR-05	5/8"	16.0	20.0	
	MCR-06	3/4"	21.0	24.4	
	MCR-08	1"	26.3	30.6	30 M / Roll
	MCR-10	1 1/4"	35.0	40.6	
	MCR-12	1 1/2"	40.3	46.0	25 M / Roll
	MCR-16	2"	51.6	58.4	20 M / Roll
	MCR-20	2 1/2"	64.5	71.6	10 M / Roll
	MCR-24	3"	78.3	86.4	
	MCR-32	4"	99.6	113.3	

## Wiring Duct (Open Solt)



Material: High impact, self-extinguishing, warp-proof 94V-0 PVC.

Color: Grey.

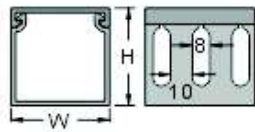
Maximum service temperature: 85°C.

Test to UL file E97527 up to 50°C.

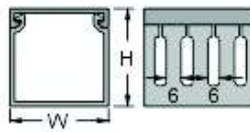
These devices are for routing of wires within devices in factory installations where the suitability of use will be determined by UL during the end use investigation.

Features parallel holes on both sidewalls to facilitate cutting in wire application.

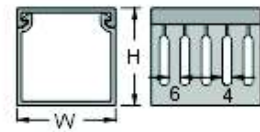
Special color, size, length upon request of reasonable quantity.



VD SOLT: 8mm



KVD SOLT: 6mm



HVD SOLT: 4mm

Unit: mm	Item No.			WxH	Wire To Be Contained	Length
	Slot					
	8mm	6mm	4mm			
	VD-1		HVD-1	25 x 30	15 ~ 25 pcs	2M
	VD-1.5		HVD-1.5	30 x 30	15 ~ 25 pcs	
	VD-2		HVD-2	25 x 40	20 ~ 25 pcs	
	VD-3		HVD-3	33 x 40	40 ~ 45 pcs	
	VD-4	KVD-4	HVD-4	40 x 40	60 ~ 70 pcs	
	VD-5		HVD-5	60 x 40	100 ~ 115 pcs	
	VD-5.5		HVD-5.5	80 x 40	120 ~ 135 pcs	
	VD-5.7		HVD-5.7	100 x 40	130 ~ 175 pcs	
	VD-6		HVD-6	25 x 60	40 ~ 45 pcs	
	VD-7	KVD-7	HVD-7	40 x 60	100 ~ 115 pcs	
	VD-8	KVD-8	HVD-8	60 x 60	120 ~ 135 pcs	
	VD-9		HVD-9	80 x 60	180 ~ 210 pcs	
	VD-9.5		HVD-9.5	100 x 60	240 ~ 290 pcs	
	VD-9.6		HVD-9.6	120 x 60	240 ~ 290 pcs	
	VD-9.65		HVD-9.65	120 x 65	260 ~ 360 pcs	
	VD-9.66		HVD-9.66	25 x 80	100 ~ 120 pcs	
	VD-9.7		HVD-9.7	40 x 80	120 ~ 135 pcs	
	VD-9.8		HVD-9.8	60 x 80	180 ~ 210 pcs	
	VD-10		HVD-10	80 x 80	240 ~ 290 pcs	
	VD-10.5		HVD-10.5	100 x 80	260 ~ 350 pcs	
	VD-11		HVD-11	120 x 80	300 ~ 400 pcs	
	VD-12		HVD-12	40 x 100	130 ~ 175 pcs	
	VD-13		HVD-13	60 x 100	240 ~ 290 pcs	
	VD-14		HVD-14	80 x 100	260 ~ 350 pcs	