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# ***Frames and Covers, Footway***

## ***About this document ...***

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Issue 4	27-Mar-1997	Doug Shelly	Revised Standards - replaces Issue 3 dated Feb1996 and EPT/UGP/B015 Issue 1 dated July 1985
Issue 3	27-Mar-2004	Doug Shelly	Revised Standards
Issue 2	27-Mar-1997	Doug Shelly	Revised Standards
Issue 1	2-May-1997	Doug Shelly	Revised standards

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# 1 **Introduction**

With the introduction and implementation of BS EN124 : 1994 - "Gully tops and manhole tops for vehicular and pedestrian areas", all new BT frames and covers used in the footway will now conform to class B125 of this specification. As from 1st August 1997 all new Frames and Covers, Footway will be manufactured to BS EN124 class B125 having a load bearing capacity of 125kN (12 and a half ton f).

*Note: The cast iron cover for Box Joint 23 is manufactured to BS EN124 class A15.*

As these new frames and covers are manufactured with an increased load bearing capacity, existing Frames and Covers Footway Type 'C' and Frames and Covers Driveway will be obsolescent. There is no requirement to replace existing frames and covers, but covers which become damaged should be replaced with covers to the new standard.

This Practice provides information on covers conforming to BS EN124 class B125, Frames and Covers, Footway and Frames and Covers, Driveway. It also refers to other obsolete types where relevant.

*Note: Covers, Footway complying to BS EN124 class B125 are interchangeable with obsolescent Covers, Footway and Driveway, Type 'C', but the jointing chamber and existing frame should be in a sound condition.*

This issue now replaces EPT/UGP/B015 Frames and Covers, Driveway Issue 1 dated July 1985 and Issue 3 of this ISIS dated February 1996.

## 2 **Description**

Including those to the new standard, five types of frames and covers have been supplied for use in the footway and compatible areas. These being:

Frames and Covers, Footway, Type 'A'

Frames and Covers, Footway, Type 'B'

Frames and Covers, Footway, Type 'C'

Frames and Covers, Driveway, Type 'C'

Frames and Covers, Footway Type 'C' to BS EN124 class B125.

### 2.1 **Frame and Cover, Footway, Type 'A'**

These consist of a castellated cast iron shell with a natural stone or concrete infill fitted to a castellated cast iron frame. The seating arrangement of the cover in the frame is shown in *Figure 1*. These items are now obsolete, but replacement covers are available (see Section 6).

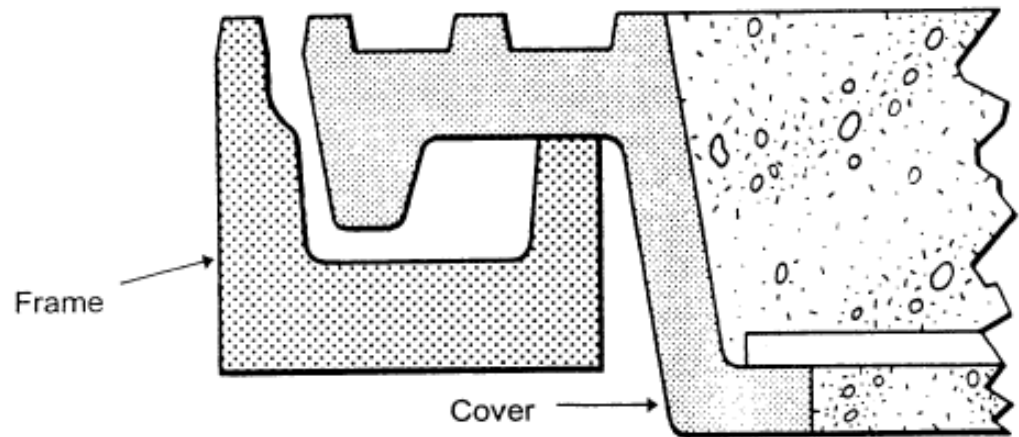


Figure 1 Frame and Cover – Type 'A' Seating

## 2.2 Frame and Cover, Footway, Type 'B'

These consist of a fabricated steel cover with a reinforced concrete infill fitted to a fabricated steel frame. The seating arrangement of the cover in the frame is shown in *Figure 2*. These items are now obsolete; replacement covers are not available (see Section 6).

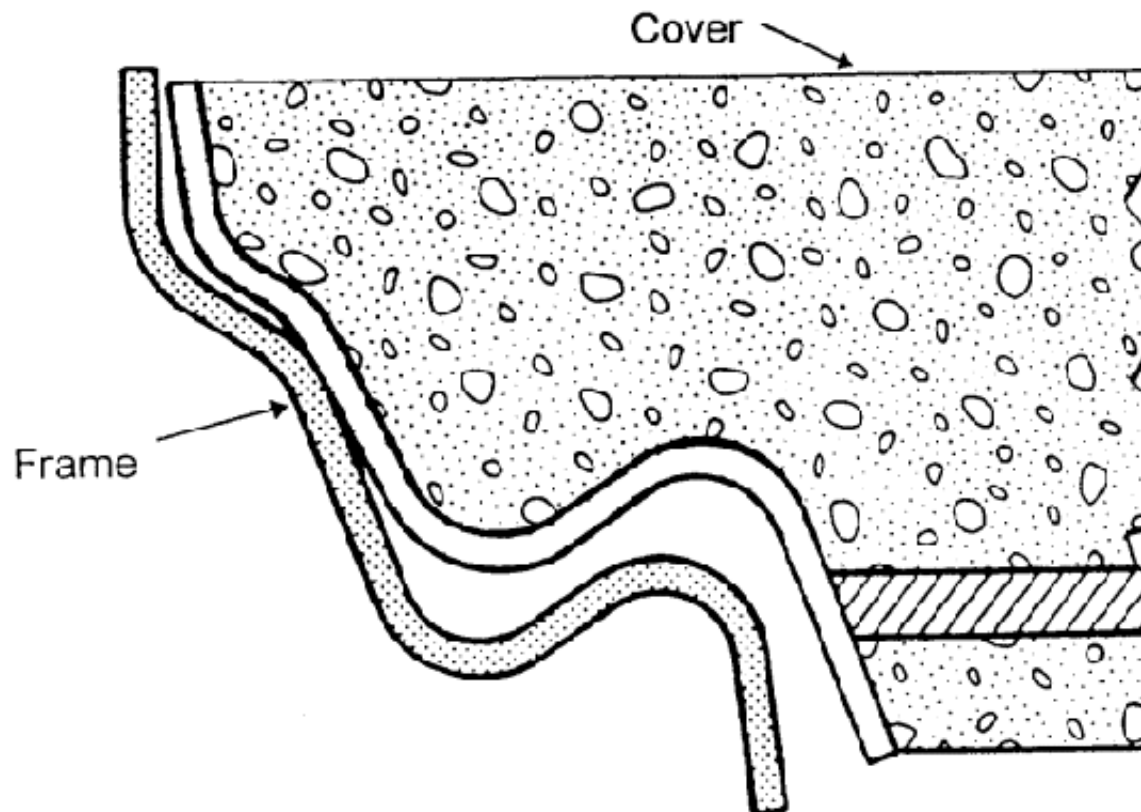


Figure 2 Frame and Cover Footway – Type 'B' Seating

## 2.3 Frame and Cover, Footway, Type 'C'

This unit consists of a fabricated mild steel cover with a reinforced concrete infill fitted to a fabricated steel frame. The seating arrangement of the cover in the frame is shown in *Figure 3*. These items will be obsolescent from the 1st August 1997, no new supplies will be available. Replacement covers are available see Section 6.

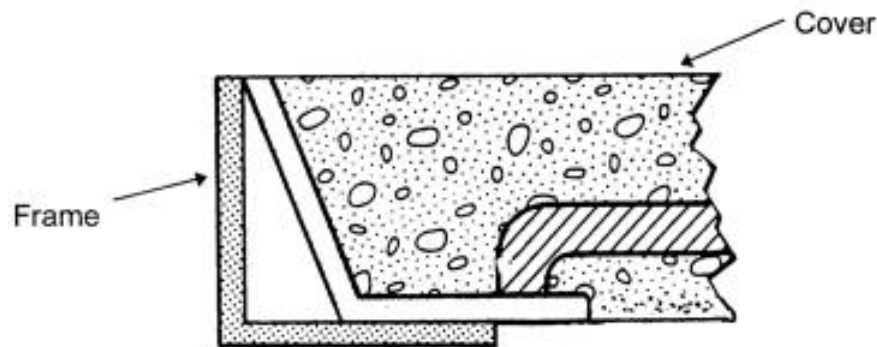


Figure 3 Frame and Cover Footway – Type 'C' Seating

## 2.4 Frame and Cover, Driveway, Type 'C'

A driveway cover consists of a fabricated mild steel tray with reinforced concrete infill. The seating arrangements of a Cover, Driveway is identical to that of a Cover, Footway, Type 'C' see *Figure 3*.

## 2.5 Frame and Cover, Footway, Type 'C' to BS EN124 Class B125

From 1st August 1997, this will be the standard issue complying to BS EN124 class B125. The unit consists of a fabricated mild steel tray with a reinforced concrete infill fitted to a fabricated steel frame. The seating arrangement of the cover in the frame is shown in *Figure 4*.

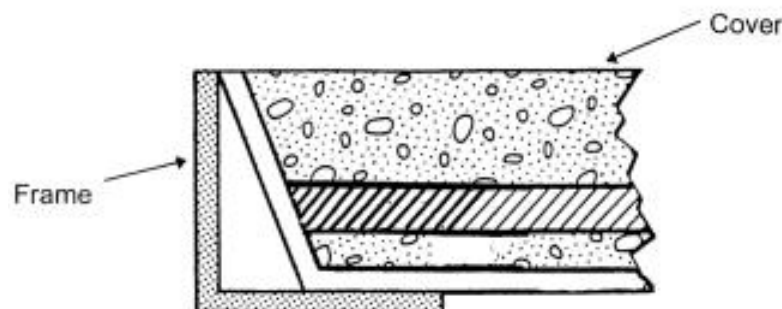




Figure 4 Frame and Covers Footway to BS EN124 Class B125 – Type 'C' Seating

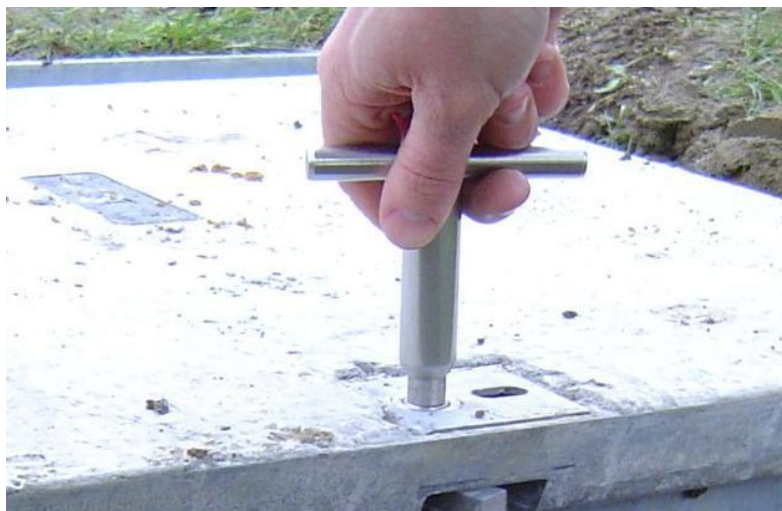
## 2.6 Frame and Cover, Footway, Type 'C' Lockable to BS EN124 Class B125

The new range of Footway Frames & Covers, including precinct covers, will be made available with locks. The covers will be secured by either one or two integrated locks and fit into a reinforced frame that is bolted to the joint box.

(Install one bolt into each tab)



The frame has been strengthened from 3mm to 5mm steel which is bolted to the structure of the box during installation.



A Turnbuckle lock has been introduced within the lid. It is locked and unlocked by pushing down and turning the new Key Security 1A (i/c 051834) through 90 degrees. All other activities associated with opening the joint box remain unchanged. Ensure the lock is secure before leaving the work site.

### 3 *Identification*

Each Type 'C' cover to BS EN124 class B125 is provided with a Black identification plaque cast into the concrete surface. The Plaque bears the marking of the European Standard, 'EN 124', the appropriate class 'B125', the mark of the certification body eg. 'Kitemark' together with the cover size number 2, 4, 5, 10 or 11. The plaque also carries the manufacturer's code, year of manufacture and the BT Logo (see *Figure 5*). The corresponding frame is stamped accordingly on its internal face.

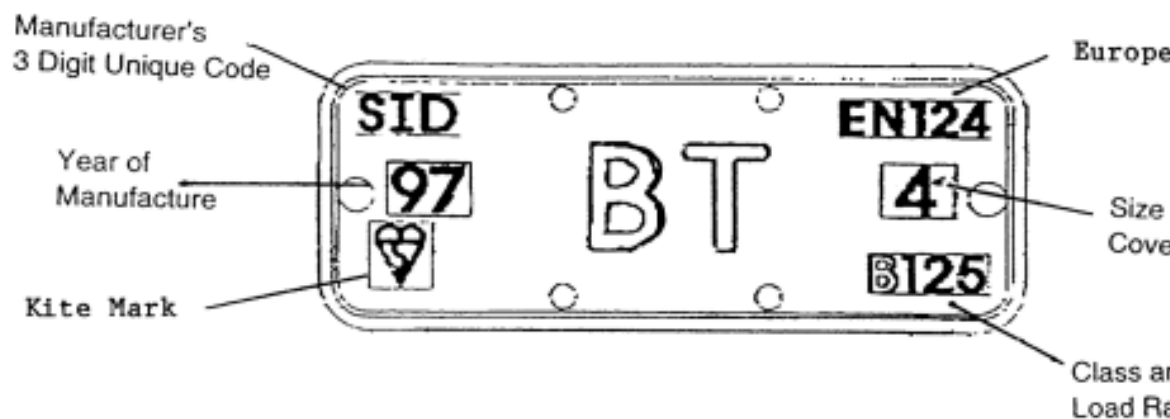


Figure 5 Type 'C' Identification Plaque (Black) – conforming to BS EN124 Class B125

Each Type 'A' replacement cover (see Section 6) commencing 1995 will include cast identification in the tread pattern (see *Figure 6*).

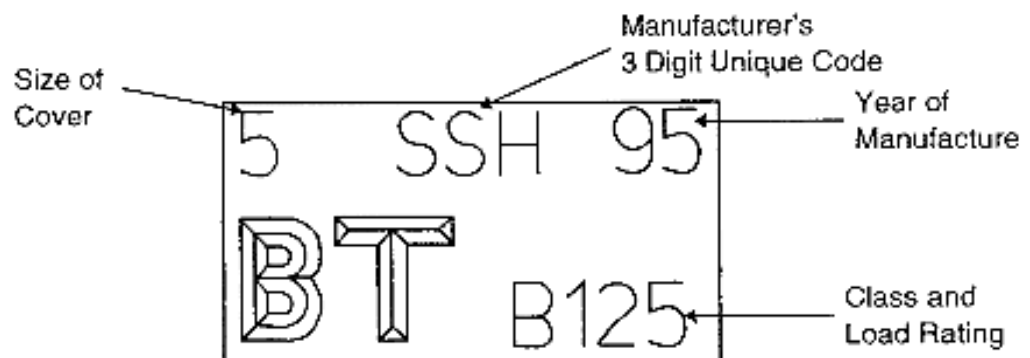


Figure 6 Type 'A' Cover identification Plaque (SG Iron Type Only)

Obsolescent Footway and Driveway Type 'C' covers are provided with an identification plaque cast into the concrete surface. The plaque bears the

grade letters 'FW' or 'DW' together with the cover size number 2, 4, 5, 10 or 11. The plaque also carries the manufacturer's code, year of manufacture and the BT Logo.

## 4 *Load Bearing Capacity*

Frames and Covers, Footway conforming to BS EN124 class B125 are designed to withstand a minimum test load of 125kN (12 and half tonf) on a specified test block. These frames and covers are capable of carrying static or slow moving wheel loads exerted by any road vehicle complying with the 'Motor Vehicles (Construction and Use) Regulations', by which a maximum static wheel load of approximately 50kN (5 tonf) is imposed.

Frames and Covers, Driveway have a minimum ultimate static load bearing capacity of 90 kN (9 tonf) applied to a 300mm diameter area. These frames and covers are capable of carrying the same wheel loads as stated for frames and covers complying to BS EN124 class B125 *in the above paragraph*.

All other Frames and Covers, Footway, have a minimum ultimate static load bearing capacity of 25kN (2 and a half tonf) applied to a 100mm diameter area. Obsolescent Frames and Covers, Footway are therefore capable of carrying pedestrian traffic and light static or slow moving vehicular loads only. See *Section 6* for further information regarding upgrading of load bearing capacity using replacement covers.

The cast iron cover for Box Joint 23 conforming to BS EN124 class A15 is designed to withstand a minimum test load of 15kN on a specified test block and is therefore not suitable for carrying vehicular traffic.

## 5 *Conditions of Use*

Frames and Covers, Footway, Type 'C' complying to BS EN124 class B125 can be used in any made up footway surface or unmade area where:

- Pedestrian traffic only is to be encountered.
- Surfaces are provided for vehicle access such as driveways to garages or service areas, shopping precincts or pedestrian areas where passage for fire service vehicles is required, where the vehicle speed is restricted to approximately 5 mph.

**\*\* FRAMES AND COVERS, FOOTWAY, COMPLYING TO BS EN124 CLASS B125 MUST NOT BE USED IN CARRIAGEWAY SURFACES, INCLUDING ENTRIES TO INDUSTRIAL SITES, FACTORIES OR LAY-BYS.**  
\*\*

- Frames and Covers, Footway, complying to BS EN124 class B125 may be used in prepared footways or unmade surfaces adjacent to carriageways, where vehicles pull off of the running surface for parking during off loading

etc, providing that either the frame and cover is within a defined kerb line, or, in the absence of a kerb the frame and cover is at least 1 metre clear from the edge of the carriageway surface.

All other obsolescent Frames and Covers, Footway were provided for use in any made up footway surface or unmade area where:

- Pedestrian traffic only was encountered.
- Occasional vehicular loading was encountered from slow moving or stationary private cars and light commercial vehicles, that is vehicles up to approximately 40kN (4tons) total weight.
- Frames and Cover, Driveway were provided for use in the same conditions as those now stated for BS EN124 class B125.

The cover for the Box Joint 23 is manufactured to BS EN124 class A15 and is therefore only suitable for locations accessible to pedestrians and pedal cyclists. The Box Joint 26 has a BS EN124 B125 cover, however, due to the box construction, it is only suitable for locations accessible to pedestrians and pedal cyclists. Therefore, these boxes should only be installed in footways or grass verges where there is no reasonable vehicular access ie, at least 600mm from a continuous 'constructed barrier' or 'natural barrier' (such as a raised embankment where the frame & cover is above the road level). Exceptionally, where there is no continuous barrier, they may be installed near a pole, within 1.5m to the side of any distance behind, but not between the pole and the carriageway.

*Note:* **Where there is evidence or significant risk of vehicles using the soft verge eg, as an undertaking area opposite a T-Junction, a passing point on a narrow road or a parking area, it will be necessary to install a Carriageway Chamber, Frame & Cover.**

## 6 Upgrading

When a footway or driveway grade cover has been damaged in service the installation may be upgraded as follows.

### 6.1 Type 'A' Covers

Replacement Type 'A' covers are now only available in Spheroidal Graphite (SG) cast iron. These covers are designed to BS EN124 class B125, having a load bearing capacity of 125kN (12 and half ton).

Replacement Type 'A' covers are available in sizes No. 2, 4 and 5 only, to fit Frames No. 2, 4, 5 and 6 respectively. Replacement Covers, Manhole No. 6 Type 'A' are not available; where replacement becomes necessary, Frame and Cover Footway 5C to BS EN124 class B125 should be used - see Drawing CN 13776 for details.

## 6.2 Type 'B' Covers

Replacement Type 'B' covers are not available; where replacement becomes necessary, Frame and Cover, Footway Type 'C' to BS EN124 class B125 should be used.

## 6.3 Type 'C' Covers (Obsolescent)

Providing that the existing frame and joint box are sound, replace damaged cover(s) with Cover(s), Footway Type 'C' complying to BS EN124 class B125.

\*\* For multiple obsolescent Footway cover installations, where not all covers have been damaged, **ALL** covers **must** be replaced with covers to BS EN124 class B125. \*\*

# 7 *Cover Removal and Replacement*

See EPT/UGP/B009.

\*\* PARTICULAR ATTENTION MUST BE PAID TO THE METHOD OF FREEING JAMMED OR FROZEN COVERS. THE METHOD OF BREAKING THE SEAL IS DESCRIBED IN EPT/UGP/B009. \*\*

# 8 *Installation*

The frame shall be bedded on cement mortar at as near the correct level as possible. The cross piece(s), where required, shall then be fitted and the cover(s) placed in the frame. The cover(s) shall be tested for rocking; if rocking occurs, packing of hard material shall be placed beneath the lowest part of the frame until rocking ceases and the cover(s) lie firm and level. All voids below the frame shall then be completely filled with cement mortar to the same level as the packing. In an unmade surface or grass the frame shall be surrounded with a 100mm wide strip of cement mortar, finished level with the top edge of the frame and the outside edge finished straight and parallel to the frame.

# 9 *General Data*

The sizes available and their respective weights are as follows:

Frame and Cover Footway Type 'C' to BS EN124 class B125	Weight kg				Clear Opening mm
	Size	Cover	Frame	Cross- Total	

			piece		
2	33.66	4.5		<b>38</b>	725 x 255
4	66.16	6.2		<b>72</b>	916 x 446
5	61.00	5.3		<b>66</b>	612 x 612
6	61.00	8.4	2.5	<b>133</b>	1308 x 612
10	85.85	12.9	2.7	<b>276</b>	2319 x 741
11	60.60	10.3	2.7	<b>199</b>	1705 x 713

Replacement cross-pieces are available for Frame and Cover Footway Type "C" in sizes 6, 10 and 11.

Replacement Cover Footway Type 'A' to BS EN124 class B125	Weight kg Mm
2	24.0
4	43.0
5	39.0

## 10 ***Ventilated Covers***

Covers, Footway, 5 Type 'C' Ventilated to BS EN124 class B125 are available. This cover may be fitted to a footway manhole shaft to assist in the prevention of foul air.

SG Type 'A' covers are not made in the ventilated form. Where a replacement Cover 5 Type 'A' Ventilated is required, the frame and cover should be replaced with Frame and Cover 5 Type 'C' Ventilated, to BS EN124 class B125.

*Note: The presence of a ventilated cover DOES NOT remove the need to test for the presence of foul air and/or gas in a manhole (see SFY/HSH/D050).*

## 11 ***Special Finishes***

In certain circumstances alternative cover surface finishes, to match a surrounding surface design, may be achieved. If this requirement arises, refer to EPT/UGP/B019

## 12 ***Plant Protection***

Frames and Covers, Footway are available in lockable form, see Para 2.6. However if the necessity arises to consider additional security protection of plant in a joint box, refer to EPT/UGP/B012

## 13 Stores

003318 FRAME AND COVER FOOTWAY NO.6 CROSSPIECE  
 003317 FRAME AND COVER NO.11 CROSSPIECE  
 075874 FRAME and COVER FOOTWAY 2C EN124 049830 is the LOCKABLE version  
 015669 Frame and cover 3 - being replaced with 095667 CARRIAGEWAY 3 - INSTALL PLUS July 2018  
 049830 FRAME and COVER FOOTWAY 2C LOCKABLE  
 003319 FRAME AND COVER FOOTWAY NO.10 CROSSPIECE  
 049835 FRAME & COVER FOOTWAY 11C (LOCKABLE)  
 049834 FRAME & COVER FOOTWAY 10C (LOCKABLE)  
 049833 FRAME & COVER FOOTWAY 6C (LOCKABLE)  
 075885 COVER FOOTWAY 11C (EN124)  
 075884 COVER FOOTWAY 10C (EN124)  
 075882 COVER FOOTWAY 5C (EN124)  
 075881 COVER FOOTWAY 4C (EN124)  
 082358 Jointbox Modular Footway 101 - shallow modular chamber for installation on maintenance digs  
 049832 FRAME & COVER FOOTWAY 5C (LOCKABLE)  
 075880 COVER FOOTWAY 2C (EN124)  
 075876 FRAME & COVER FOOTWAY 5C (EN124) 049832 IS THE LOCKABLE VERSION  
 049831 FRAME & COVER FOOTWAY 4C (LOCKABLE)  
 049830 FRAME and COVER FOOTWAY 2C LOCKABLE  
 003319 FRAME AND COVER FOOTWAY NO.10 CROSSPIECE  
 003318 FRAME AND COVER FOOTWAY NO.6 CROSSPIECE  
 003317 FRAME AND COVER NO.11 CROSSPIECE  
 075879 FRAME & COVER FOOTWAY 11C (EN124) NEW SITES TO USE 049835 LOCKABLE  
 075878 FRAME & COVER FOOTWAY 10C (EN124) NEW SITES TO USE 049834 LOCKABLE  
 075877 FRAME & COVER FOOTWAY 6C (EN124) NEW SITES TO USE 049833 LOCKABLE  
 075875 FRAME & COVER FOOTWAY 4C (EN124) NEW SITES TO USE 049831 LOCKABLES  
 075874 FRAME and COVER FOOTWAY 2C EN124 049830 is the LOCKABLE version  
 091694 Oxford Plastics Footway Board 1125x1125mm low profile trench cover

## 14 References

<b>ISIS Documents:</b>	
EPT/UGP/B009	Removal and Replacement of Footway and Driveway Jointing Chamber Covers.
SFY/HSB/D050	Health and Safety Handbook - Gas Precautions Section.
EPT/UGP/B019	Frames and Covers for Precincts.
EPT/UGP/B012	Protection of Underground Plant Against Unauthorised Entry
<b>British Standards:</b>	
BS EN124 -	Gully Tops and Manhole Tops for Vehicular and Pedestrian Areas.

## 15 Appendix's

A guide to frames and covers and their replacements in the external field.



Please click here

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