

CLARK-DRAIN



THE DRAINAGE COMPANY

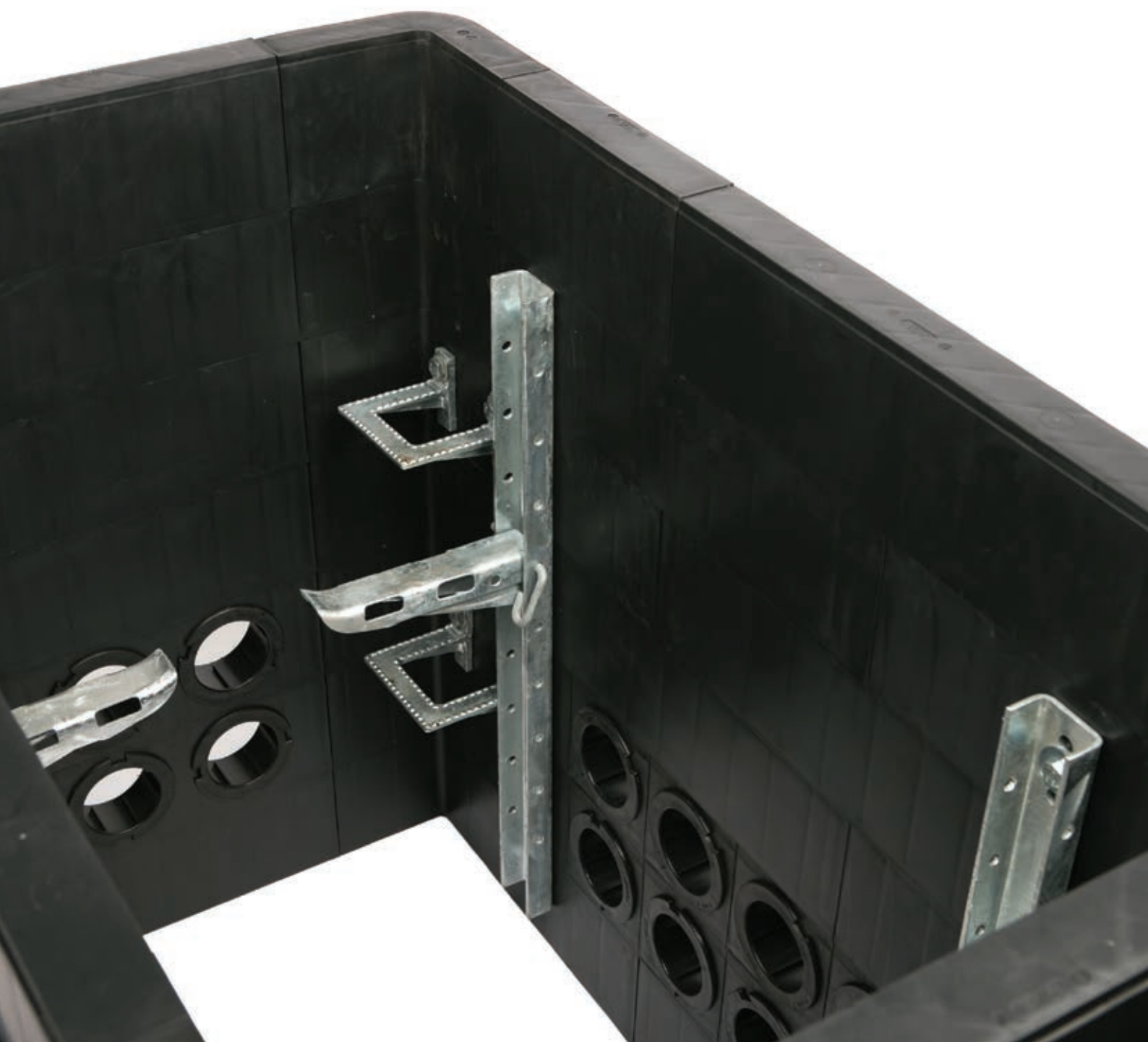
CHAMBER ACCESS SYSTEMS



Defence | Highways | Utilities | Public | Construction | Rail

Clark-Drain leads the way as a UK manufacturer of chamber access systems

Clark-Drain is a leading innovator of chambers and covers delivering cable/utility access and network protection solutions. Central to their design is a focus on customer needs. It is why we supply them to a customer's precise requirements, as complete chamber access systems, ready to go in the ground, to make them easy to install and to provide the flexibility required for different installations.



Why use a Clark-Drain Chamber Access System?



ONE SUPPLY SOURCE FOR ALL YOUR NEEDS

- Supplied to a customer's precise requirements, complete with galvanised steel or ductile iron cover and frame, chamber furniture, i.e. bearer bars, step irons, etc., all accessories and pre-configured duct holes
- We provide drawings to specification which customers can amend and sign off so that we can deliver the precise solution for your installation



COST EFFECTIVE

- A single source of supply, delivered on time and in full, reduces the time and cost associated with managing different suppliers, e.g. inventory, transport to site, long delivery lead-in times which can cause project hold-ups, etc.
- Complete chamber solution is easy to install reducing the labour and equipment required to install and the need for specialist skills



STRONG

- Strong in-house focus on material technology and technical design
- Design focused on whole life product strength and durability



VERSATILE

- Chamber and cover variants for footway and carriage/roadway installations
- Multiple clear opening sizes from 300mm x 300mm to 1800mm x 675mm provide wide product choices
- Can be used by defence organisations looking for data security; in the general construction of fibre optic and broadband CATV networks; by water companies looking to protect assets, e.g. pumping systems and valves; and in the highways sector for accessing motorway communications, traffic signalling and street lighting
- Multiple duct entry configurations are available for:- 'virgin' sites; overbuilding on live networks; or bespoke build



QUALITY MANUFACTURE

- Manufactured in accordance with BS EN ISO 9001:2008 Quality Management Systems
- The chamber bellmouths are designed to be Mandrel test friendly
- Chambers are tested to BS EN 124 D400 (40T) loading
- Covers and frames are compliant to BS EN 124 and FACTA guidelines
- Approved by the Ministry of Defence (JSP 604 PART 2 - Regulations for the Installation of Information Communication Technology)
- Factory fitted step irons are designed, manufactured and tested to EN13101:2002



HEALTH AND SAFETY

- Manual handling – Strong chamber structure makes it easy to handle and assemble during installation
- Minimal flexing and a slip-resistant tread pattern on the step irons reduces operator uncertainty when accessing the chamber



GREEN CREDENTIALS

- One stop supply means more effective use of transport costs
- Chambers are made from 100% recycled polypropylene

Access systems for safeguarding communication and utility networks

With the aim of contributing to network access and security, Clark-Drain chamber systems are designed and engineered to accommodate fibre optic networks and broadband CATV networks in footways and carriageways as well as other underground assets such as electric cables, pumping systems and valves, etc.

Our chambers are moulded in recycled polypropylene and retain exceptional strength to weight properties. Their excellent durability and loading performance results from a lattice structure inside each moulded segment which lock tightly together to form 150mm ring sections, secured by internal wall bearer bars to add further stability during transit, installation and use.

A wide choice of chamber systems are available with a variety of pre-determined duct entry patterns as well as plain sided options for bespoke drilling requirements.

The chambers are manufactured under a certified BS EN ISO 9001:2008 Quality Management System and are tested to BS EN 124 D400 loading whilst our covers and frames are compliant to FACTA and BS EN 124 B125 and D400. Coupled with this is a long product life, which is further enhanced by the chambers' resistance to ground acids, alkalines, petrol and diesel.

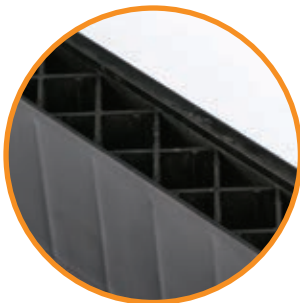
MANDREL TEST

To verify the integrity of the duct installation, Mandrel testing will ensure that the minimum acceptable internal diameter of the duct entries is maintained throughout. The chamber bellmouths are designed to be Mandrel test friendly.



Tested up to 40T load rating classification

A strong uniform lattice structure inside the chamber walls reduces flexing and provides a firm structure for easy manual handling and assembly



Moulded duct aperture will accommodate 96mm and 110mm bellmouth and cap.



Galvanised steel internal bearer bars stabilise the chamber wall and prevent ring movement



Factory fitted step irons have a slip-resistant tread pattern and are designed, manufactured & tested to EN13101:2002.

Due to the lattice strength structure within the chamber walls there is minimal flexing on the step irons which prevent operator uncertainty during access.



Duct-entries can be supplied in various configurations.

The thickness of the chamber walls have been optimised to provide excellent cover seating and good interaction with the bedding material.

Industry Applications

The Clark-Drain chamber access systems can be used by defence organisations looking for data security; but also in the general construction of fibre optic and broadband CATV networks; by water companies looking to protect assets, e.g. pumping systems and valves; and in the highways sector for accessing motorway communications, traffic signalling and street lighting.



Defence – Data cable protection



Highways – Street lighting and traffic signals



Utilities – Cables, pumping systems and valves



Construction – General building of underground utilities



Public – Security grids for prisons



Rail – Non track-side cabling

Commitment to Quality

Our access systems are manufactured under a certified BS EN ISO 9001:2008 quality management system. Further assurance of quality is gained from the relevant European and British performance specification under the prestigious british standard kitemark and compliance with relevant industry specific regulations.

The following standards are applied to our chambers and access covers:

ISO 9001:2008

All work is carried out under the international quality standard, BS EN ISO9001:2008 that governs our product manufacture. Our whole team is committed to the principles of Total Quality Management.

BS EN 124

Our chambers are tested to BS EN 124:1994 B125 or D400 loading. Our covers and frames are BSI Kitemark Certified to BS EN124:1994 D400 and B125 load rating classification.

FACTA

FACTA guidelines are used in the specification of our fabricated steel access covers as an industry standard to ensure high quality and fitness for purpose.

JSP 604 PART 2

Our chambers, covers and frames are manufactured in accordance with the Ministry of Defence JSP 604 Part 2 – Regulations for the Installation of Information Communication Technology as well as the out-going JSP 480 Manual of Regulations for Installation of Communication & Information Systems

UVDB Verify

Clark-Drain has Category A status with The Utilities Vendor Database (UVDB) Verify scheme against key criteria such as Health and Safety, Environmental controls & procedures and quality.

HA 104/09

Many of our covers are designed to comply with the Highways England 'Design Manual for Roads' for low and high risk areas.



KM 98709



FM 86830



Installation Guidelines for Clark-Drain Modular Chamber System

THESE ARE INTENDED AS GUIDELINES ONLY – IF IN DOUBT, SEEK ADVICE.
ALWAYS TAKE CARE WHEN USING HAND AND POWER TOOLS AND WEAR PPE

NOTES BEFORE STARTING WORKS:

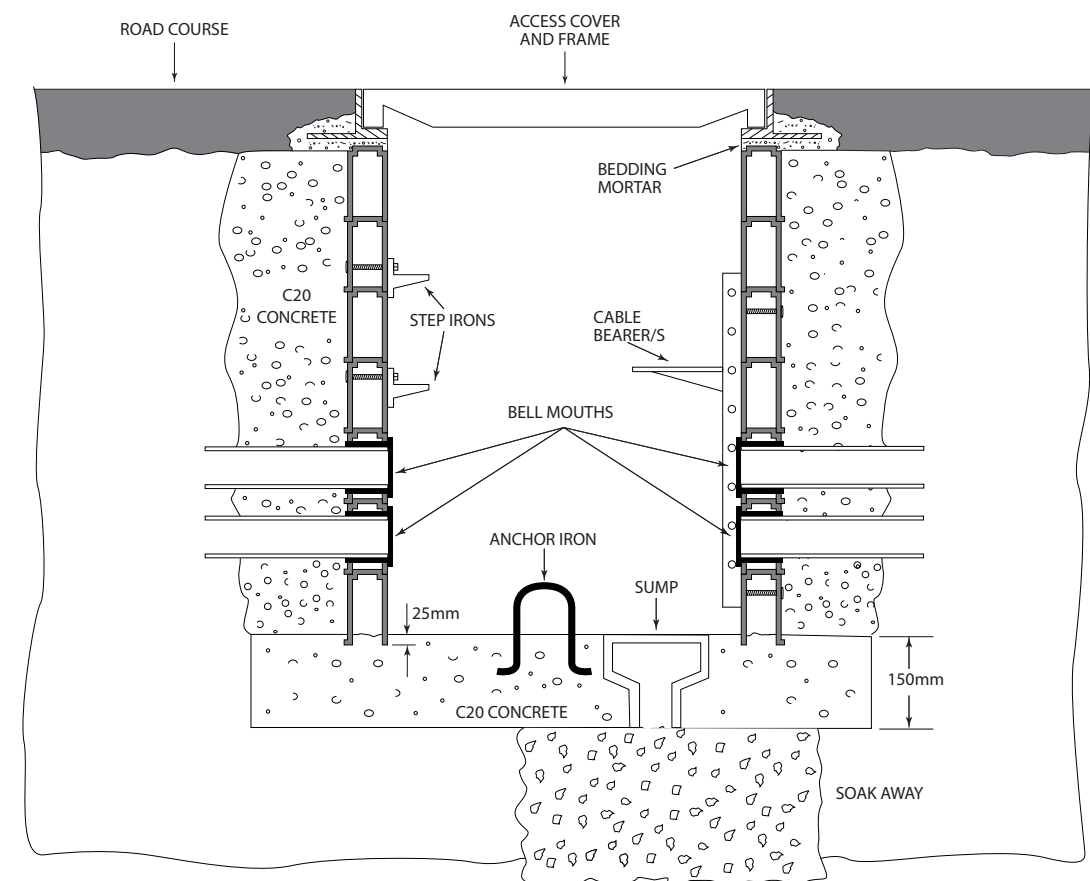
- A** All Clark-Drain modular chambers are supplied with a pre-determined configuration of duct entries along with a selection of 96mm or 110mm bellmouths, and universal blanking caps.
 - i. The blanking caps should be used on all unused duct entries, fitted on the outside wall of the chamber; to prevent back-fill from entering during subsequent installation.
 - ii. Bellmouths should be fitted on the inside as required for all duct entries.
 - iii. Should additional quantities of bellmouths or blanking caps be required these can be purchased separately (product codes CD 24281/96, CD 24281/110 and CD 24282).
- B** Should additional duct entries be required the chamber walls can be drilled with a hole-saw at an appropriate position, ideally along the same horizontal plane and without cutting across any joint lines if possible. Please note: breaching too many joint lines while drilling bespoke duct entries may compromise the chamber wall strength.
- C** All ducting should enter at 90° to the chamber wall.
- D** Chamber depth can be increased using additional ring sections, purchased separately. Each ring increases the chamber depth by 150mm, and must be secured to the adjacent ring by use of link plates provided. When adding rings to increase chamber depth, please remember to purchase and fit additional step-irons (product code CD 24840) as needed. We recommend at least one step every third ring (i.e. every 450mm).

INSTALLATIONS:

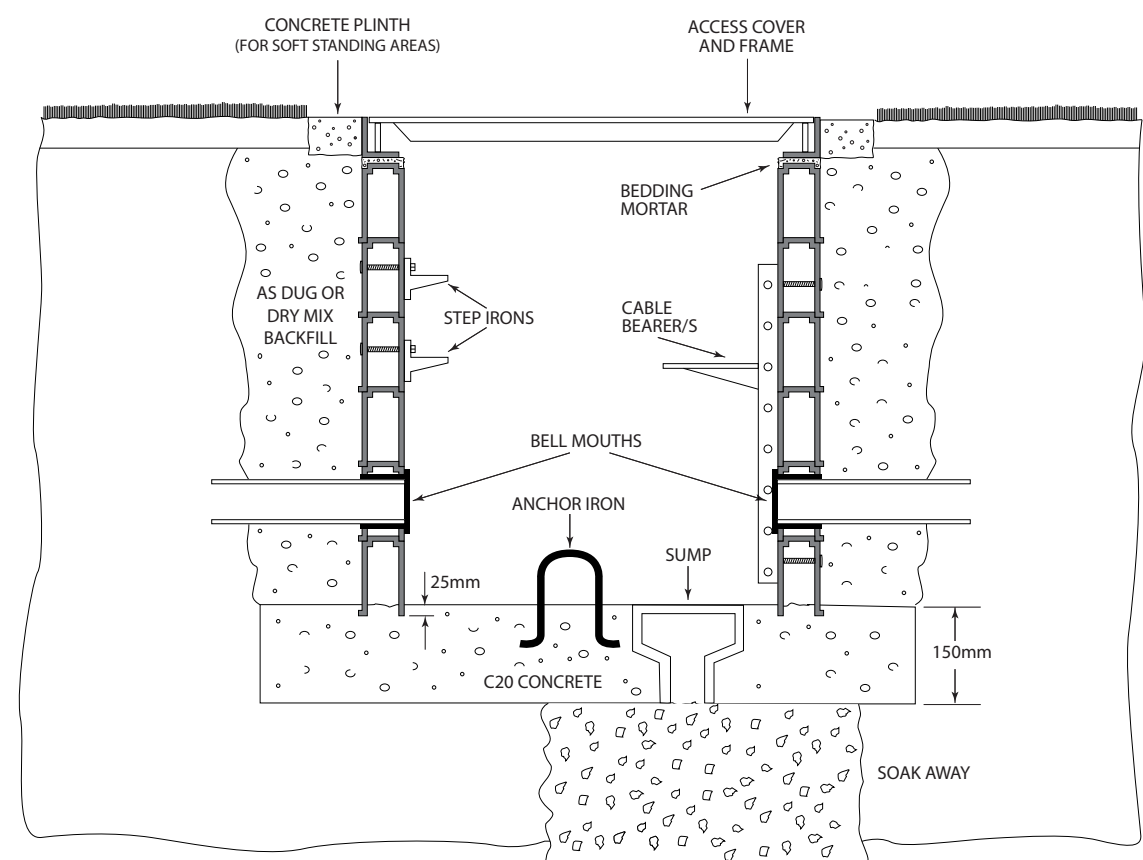
- 1** Mark out the area where the pit is to be excavated, allowing a minimum of 150mm (or more to allow space to work as needed) around the full perimeter of the chamber for backfilling and compaction.
- 2** Within the marked area, excavate from finished surface level to the total depth of the chamber; plus the depth of the concrete base, plus the depth of the access cover and frame (including a small allowance for bedding mortar).
- 3** Once the pit has been excavated, compact the base then install/position the anchor iron and/or sump unit with soakaway if required in their intended positions before pouring a concrete base to form the foundation of the chamber. The concrete used for the base should be of at least C20 grade and be at least 150mm thick. While the concrete is still wet it is recommended that the bottom ring of the modular chamber be set into it by approx. 25mm. To facilitate this, Clark-Drain modular chambers are supplied with the bottom ring easily detachable by removal of the relevant cable bearer bracket fixings, if fitted, or by removal of the plastic welds that hold the bottom ring to the one above.
- 4** When the bottom ring of the chamber is in position finish the floor using a float and trowel to achieve an even surface that is sloped slightly towards the sump (if installed).
- 5** The remaining ring sections of the chamber can then be installed on top of the base ring, securing the two together with the fixings provided, and ensuring the ducting is fitted in the relevant duct entry holes and trimmed to the correct length.
- 6** Prior to back-filling around the chamber, the inside walls must be braced adequately to avoid the walls bowing inwards. This bracing can be removed when the chamber installation is complete and all concrete used has fully cured. At this point all required bell-mouths should be fitted.
- 7** For FACTA AAA/B125 applications the back-fill can be as-dug material or dry mix concrete. For D400 applications the back-fill must be concrete of at least C20 grade. Back-fill in 300mm maximum layers and where dry mix or concrete has been used allow to cure before applying the next layer. Chambers installed in turfed or soft-standing areas should also have a concrete ring around the frame of the access cover of at least 100mm wide x 75mm deep to prevent damage to the access cover by non-road vehicles (e.g. lawn-mowers) and/or long-term sinking issues.
- 8** When the back-filling is complete and any concrete used has fully cured the access cover and frame can be fitted as per normal procedure. Resin-based bedding mortar between the access cover frame and chamber top is recommended for FACTA AAA/B125 applications, and a necessity for D400 applications (as per standard industry practice).

Example installation diagrams

D400 CHAMBER INSTALLATION



FACTA AAA/B125 CHAMBER INSTALLATION







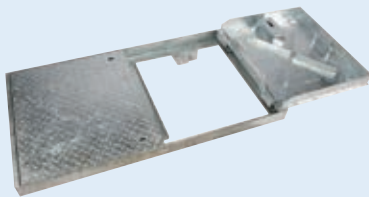
Product Selector

To complement our chambers, a comprehensive range of security and non-security covers and frames are available, manufactured from galvanised steel or ductile iron, depending on the loading required.

Opposite is a selection:

KEY
■ Standard product
● Available on request

Options:
Badging, and screw and security locking available on all cover options

		Chamber clear opening size (mm) Ring sections are 150mm depth												
		300 x 300	450 x 450	600 x 450	600 x 600	675 x 675	750 x 600	750 x 750	900 x 600	900 x 900	1200 x 600	1200 x 675	1500 x 750	1800 x 675
	B125 Ductile Iron Covers (BSI Kitemark Certified to BS EN 124:1994)		■	■	■	■	■		■					
	D400 Ductile Iron Cover options 100mm depth (Carriageway and non-carriageway) (BSI Kitemark Certified to BS EN 124:1994)	■	■	■	■	■	■	■	■	■	■	■	■	■
	D400 Ductile Iron Cover options 150mm depth (Carriageway and Non-carriagway) (BSI Kitemark Certified to BS EN 124:1994)				■	■	■	■	■			■		■
	B125 Precinct Steel Covers with 70mm or 100mm internal tray depth (BSI Kitemark Certified to BS EN 124:1994)			■	■	■	■	■	■		■	■		■
	Selection of Steel Pavior/ Press/Chequer Plate/Bespoke Covers are available depending on loading/application	●	●	●	●	●	●	●	●	●	●	●	●	●

Accessories



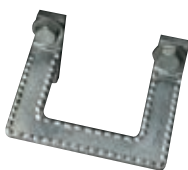
Padlock Cen Grade 5
(Two types are available 'keyed alike' and 'keyed to differ') as used by the MOD



96 and 110mm Plain Bellmouth



Cover Cap for Bellmouth



Step Iron



Cable Bearer Bracket



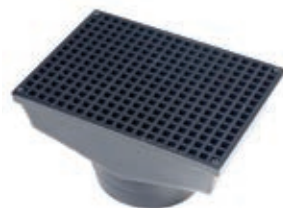
Cable Bearer Locking Pin



Wall Cable Bearer



Chamber Anchor Plate



Chamber Sump and Grill

Clark-Drain offers a comprehensive range of access covers and drainage products for civils construction projects

DUCTILE IRON COVERS & GULLY GRATINGS

BS EN 124

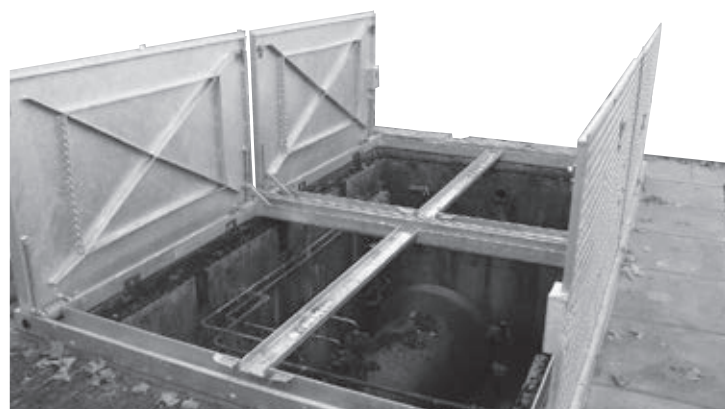


POLYMER CONCRETE LINEAR DRAINAGE

BS EN 1433



BESPOKE STEEL ACCESS COVERS AND FRAMES



Due to our continual development programme, we reserve the right to upgrade products without prior notice. All products must be installed in accordance with Clark-Drain installation guidelines.

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