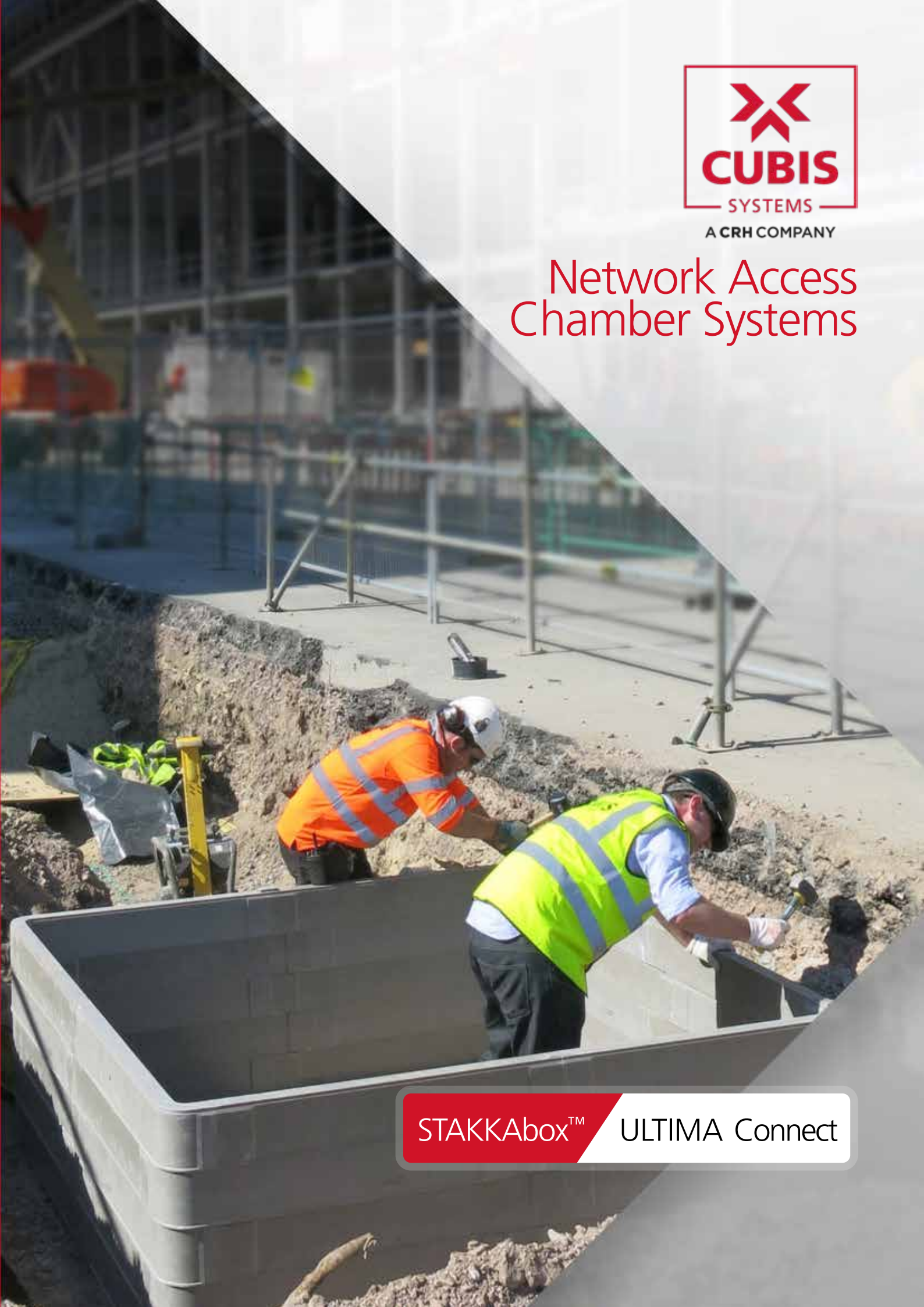
CUBIS SYSTEMS

A CRH COMPANY

Network Access Chamber Systems



STAKKAbox™ ULTIMA Connect

CUBIS SYSTEMS
A CRH COMPANY

STAKKAbox™ ULTIMA Connect

The Next Generation in Chamber Access Systems

A modular scalable solution built on-site
with easily connectable components.

Contents

Introduction 02

STAKKAbox™ ULTIMA Connect 04

How it Works 04

How it's Built 06

Measuring a Chamber 08

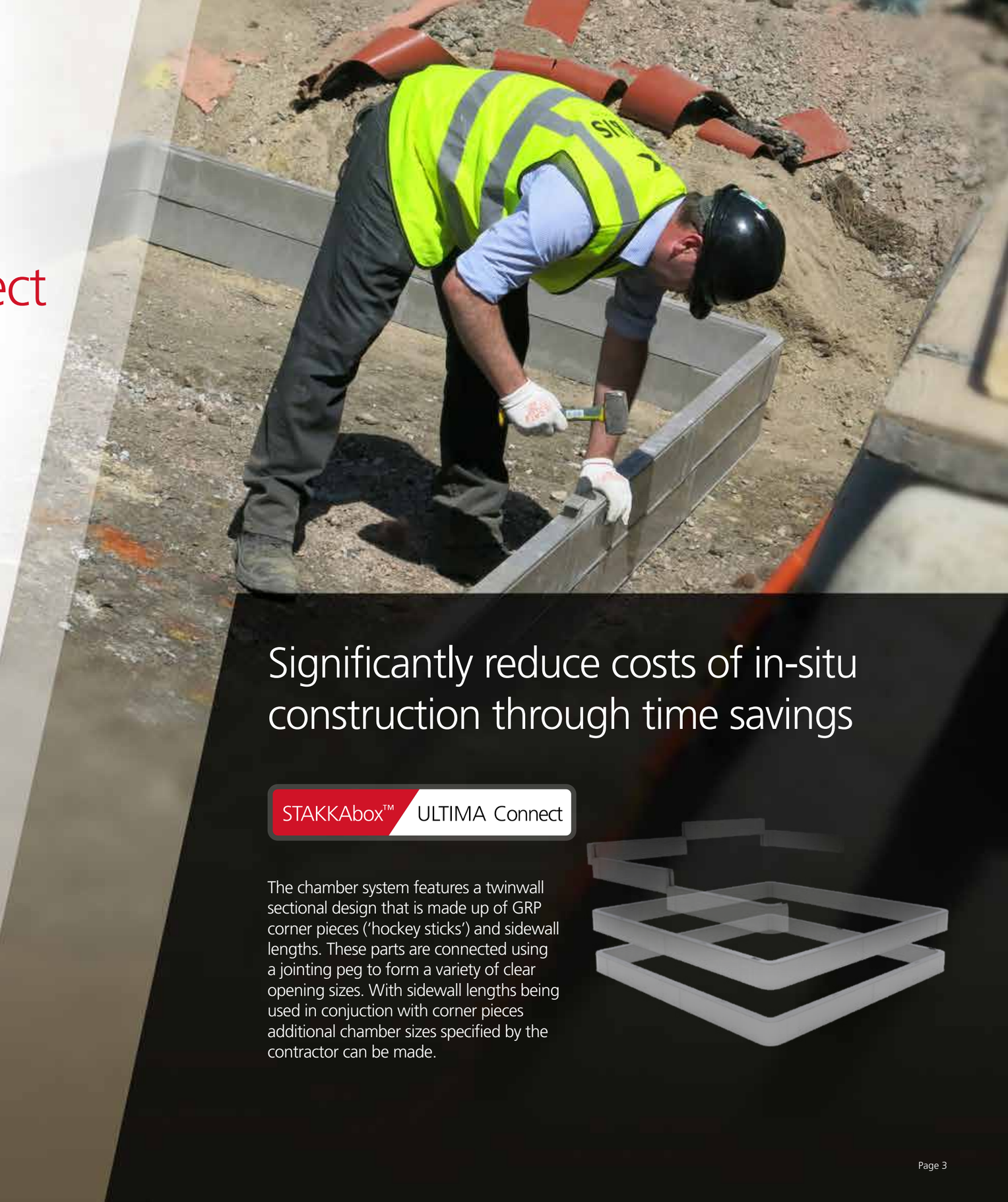
Xtras Range 10

AX-S™ Covers 11

Chamber Accessories 12

STAKKAbox™ ULTIMA 14

Case Studies 16



Significantly reduce costs of in-situ construction through time savings

STAKKAbox™ ULTIMA Connect

The chamber system features a twinwall sectional design that is made up of GRP corner pieces ('hockey sticks') and sidewall lengths. These parts are connected using a jointing peg to form a variety of clear opening sizes. With sidewall lengths being used in conjuction with corner pieces additional chamber sizes specified by the contractor can be made.

STAKKAbox™ ULTIMA Connect

How it Works

ULTIMA Connect is manufactured in 150mm deep sections that stack one on top of each other to reach desired depth. Each ring section is castellated to positively interlock with the unit above and below.

ULTIMA Connect Product Benefits:

Variability in Size

ULTIMA Connect offers a huge range of chamber dimensions thanks to the large number of standard sections and the variability offered by the ULTIMA Connect system.

Lightweight

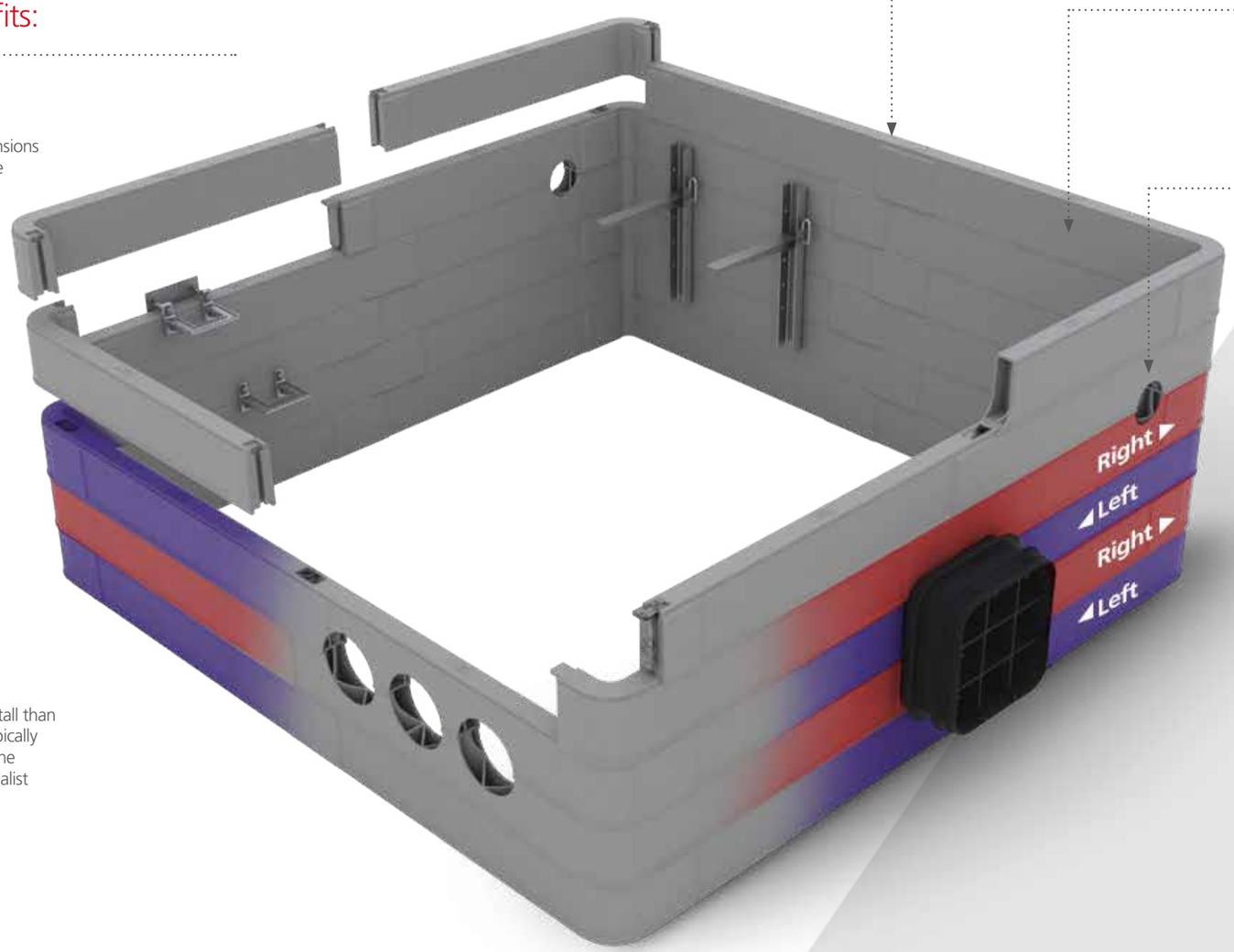
Due to the sectional twinwall design and the GRP material, most ULTIMA Connect 150mm deep sections fall under 25kg in weight, making it suitable for a single person lift under manual handling regulations.

Material

Glass-reinforced plastic (GRP), is a composite material, fibre-reinforced polymer made of a plastic reinforced by fine fibres made of glass.

Fast and Easy to Install

ULTIMA Connect chambers are significantly faster to install than conventional alternatives, with complete installations typically taking up to one hour. This results in reduced costs for the installer. Only the largest sizes in the range require specialist equipment or plant in order to install the chamber.



Strength

ULTIMA Connect offers the ability to offset joints between sections to provide a strong brickwork effect improving side wall performance.

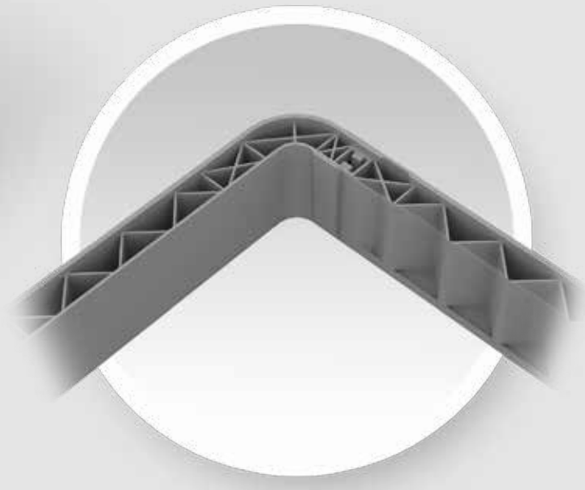
Chemical Resistance

GRP outperforms traditional construction methods for chemical resistance during its buried life, resulting in a product that offers longer installed life.

Smooth Outer Walls with Lip to 'Key In'

Gaps in the outer wall will negatively impact the effectiveness of compaction around the chamber. STAKKAbox™ chambers have smooth outer walls and an outer lip which keys into the backfill.

GRP material for long lasting toughness, durability and strength



ULITMA Connect chambers can achieve unsupported 60 tonne vertical load test results. Side loads are comparable to that of concrete chambers. ULTIMA Connect sections are twin walled and complete chambers feature horizontal and vertical ribs.

STAKKAbox™ ULTIMA Connect

How it's Built

ULTIMA Connect corner pieces are manufactured in left and right 'handed' designs, which offer the ability to offset joints between sections in order to provide a brickworked design. This offers strong sidewall performance to the installed chamber.

Jointed Pegs are inserted at each intersection to securely connect each component

When constructing an ULTIMA Connect chamber you must remember to start with a full ring section of either left or right corner pieces. You can then build up from this using alternative corner pieces per ring section, until the specified height of the chamber is reached.

It is possible to differentiate between a left-handed and right handed corner piece when both parts are placed beside each other as the left-handed corner piece looks like an 'L'.

CUBIS SYSTEMS
A CRH COMPANY

Modular and Scalable

Below is all the sizes available to make up any chamber needed.

Sidewalls

500mm 600mm 1000mm

Corner Sections

400mm 600mm 675mm 750mm

800mm 900mm

1000mm 1200mm

1500mm

1900mm

Cubis access chambers can be fitted with a range of AX-S™ Covers and Cubis X-TRAS™ accessories

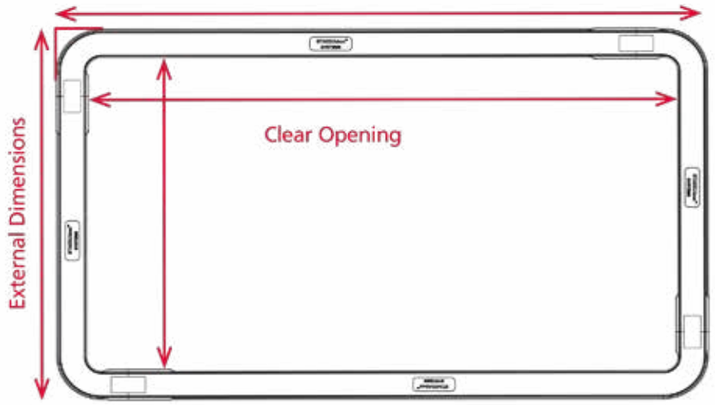
STAKKAbox™ ULTIMA Connect

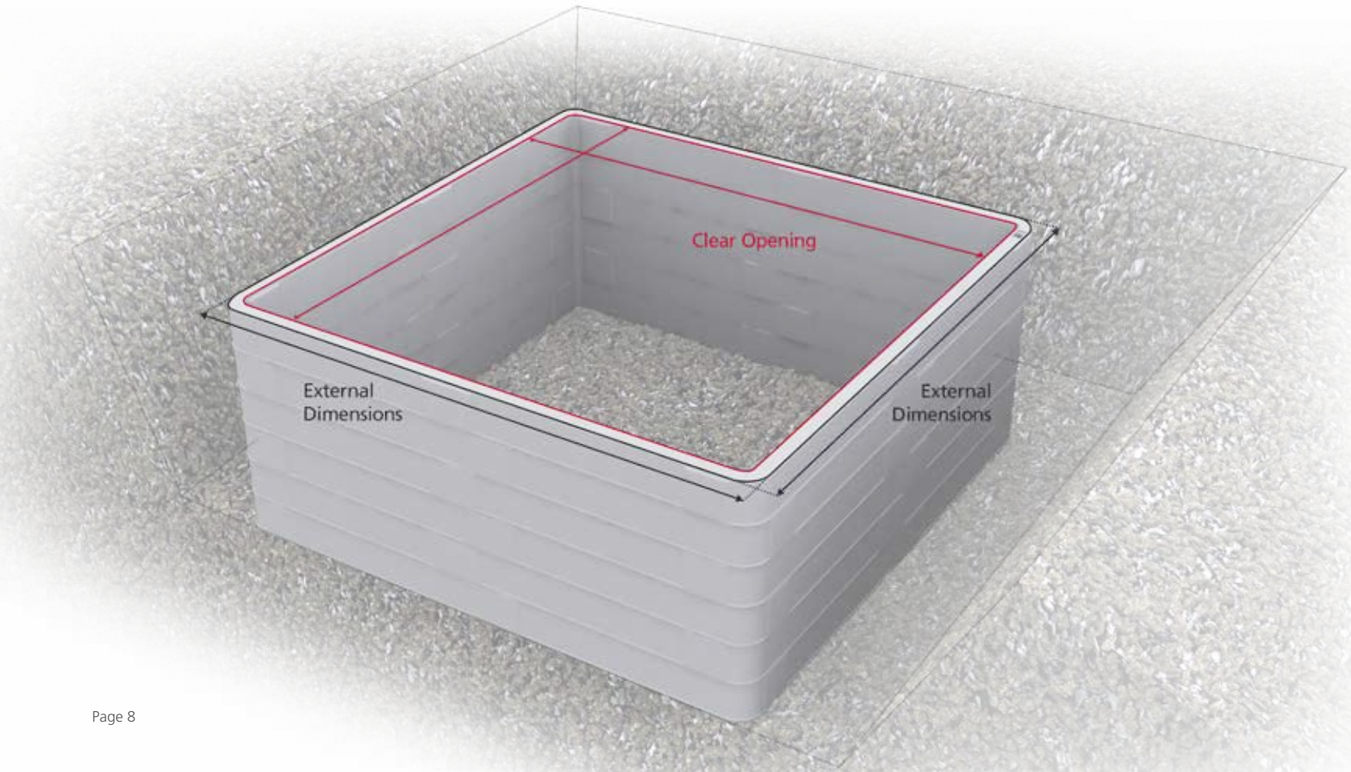
Measuring a Chamber

Network access chamber sections are measured by the measurements inside of the chamber. Attention should also be paid to the external dimensions when deciding whether the network access chamber will fit into the area required.

STAKKAbox™ ULTIMA Connect

Specifying a Size

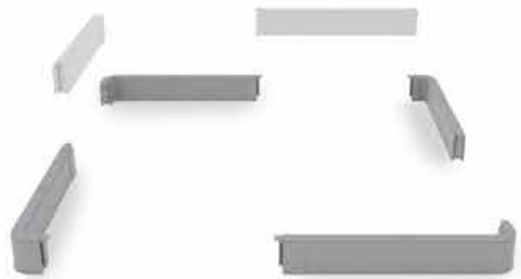




Rapid and Easy Installation

Step 1:

Arrange corner pieces and sidewalls to match the chamber clear opening dimensions. Ensure that the lip is on the outside of the chamber. The corner pieces should be all 'left' or all 'right' on each section and will alternate between the two as the chamber increases in depth.

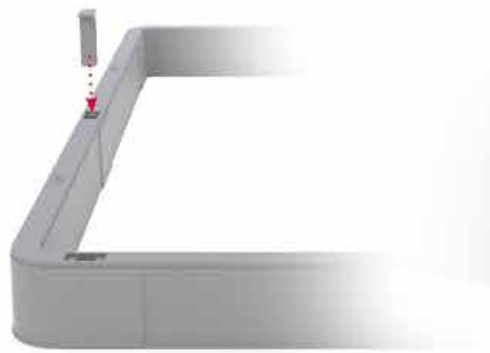


Step 2:

Layout the first ring section of connect pieces to ensure you have the correct components

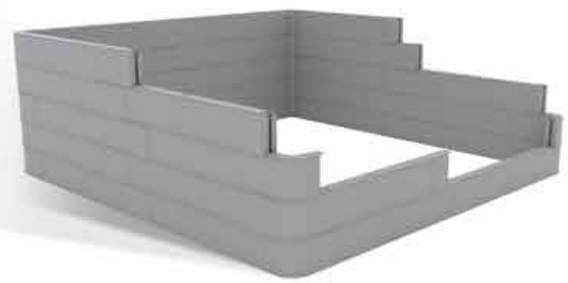
Step 3:

Now Connect the sections using the jointing peg, ensuring that the top of the peg is level with the top of the section.



Step 4:

Build the next section on top, using the alternative corner pieces. This will provide a 'brick worked' chamber ensuring any joints are not in a vertical line.



X-TRAS™ Range

Chamber Accessories

Using Cubis access chamber systems accessories can help save even more time. Our chamber options & accessories range allows installers to simply place, connect up tubes or ducts, backfill and walk away.

1. X-TRAS™ Access

Chambers deeper than 600mm will usually require steps or ladders for access. We supply high quality drop-in or bolt-on steps to suit customer requirments.

2. X-TRAS™ MULTIduct Spigot

MULTIduct™ spigots can be built into assembled chamber so that interface can be completed quicker on site. These can be located anywhere to match customers' needs.

3. X-TRAS™ Cable Management

Based upon BT or France Telecom accredited galvanised steel cable and joint management and our own high-strength plastic fittings, these accessories will keep cables dressed perfectly within the chamber.

4. X-TRAS™ Bases

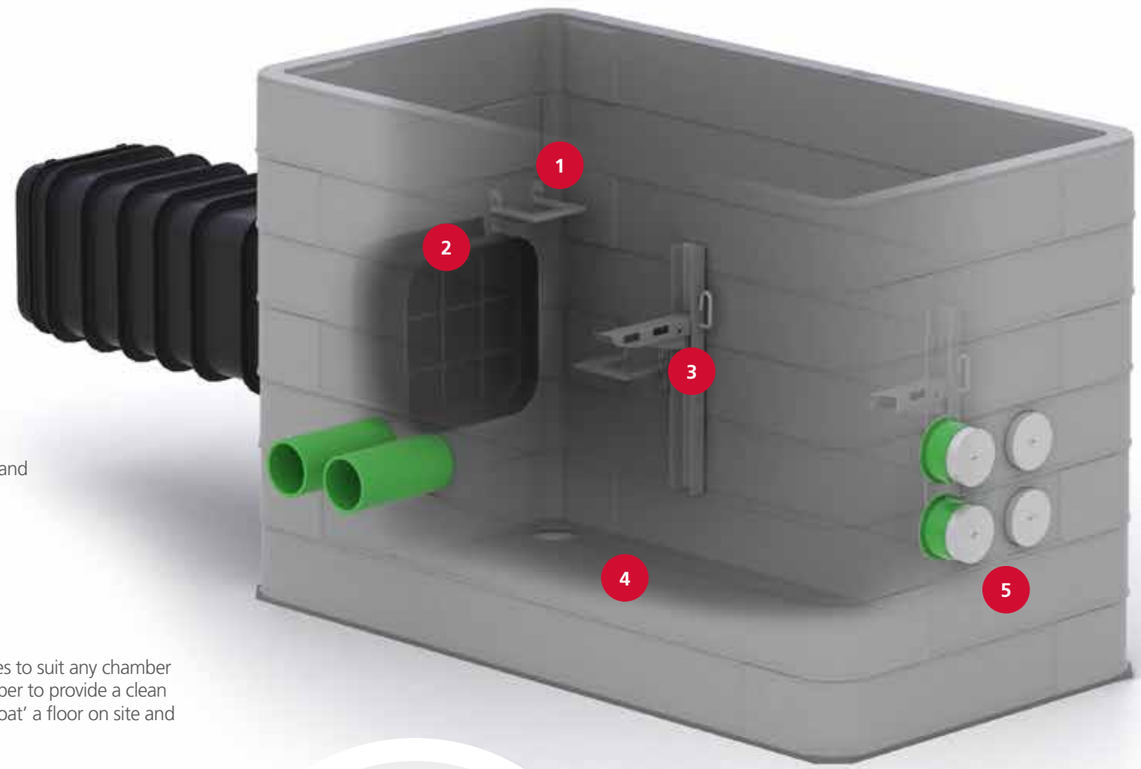
We extrude 100% recycled Low Density Polyethylene chamber bases to suit any chamber size. These are securely fitted to a ring section or bottom of a chamber to provide a clean easy finish to the floor of the chamber. There is no requirment to 'float' a floor on site and the floor prevents vegetation and silt from entering.

Bases are available with an anti-slip finish, grated drainage holes with silt block, sumps to provide a low point for removal of water and built in cable pulling eyes.

5. X-TRAS™ Duct Entry

Ducts, tubes and pipes come in many size and wall configurations and we have developed fittings which provide for the simple transit of these into our chambers. Whilst duct entries can always be made very easily on site, our pre-fit service gives consistent spacing and internal wall finish every time.

The addition of cable glands means they will also stop sand, silt and if required, water ingress at the point of entry.



Pre-fitting Service

Focusing on customer needs, we have developed the parts required and offer a pre-fitting service, saving further time on site.

AX-S™ Covers

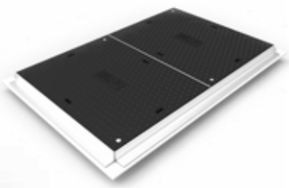
The Cubis AX-S™ range of access covers provide customers with a complete underground network access system as they are designed and manufactured from a range of materials to complement our chamber ranges.

The AX-S™ range can be tailored to meet specified loading requirements from pedestrian up to carriageway duty and are available in a wide range of clear opening dimensions and depths.

AX-S™ Concrete Infill

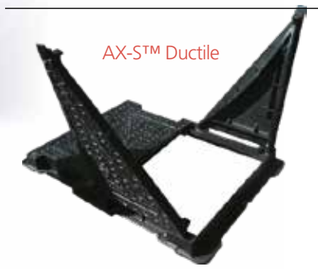
AX-S™ Recessed

AX-S™ Composite



AX-S™ Steel

AX-S™ Ductile



Options

- Bespoke customer badging
- Various frame depths and types
- Security options
- Large range of sizes available

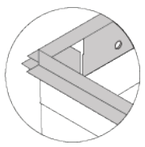
LOSS PREVENTION CERTIFICATION BOARD
LPCB

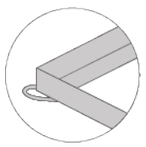
Chamber Accessories

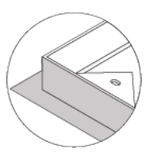
AX-S™ Covers

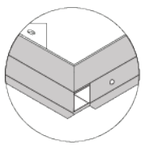
Dimensions in mm		B125	B125	A15	B125	C250	B125	B125	D400	D400	E600	F900	C/Way	B125	B125	C250	C250
L	W	Concrete (Standard)	Concrete (Riser)	Composite	Composite	Composite	Ductile (40mm)	Ductile (75mm)	Ductile (100mm)	Ductile (150mm)	Ductile (150mm)	Ductile (150mm)	Ductile (150mm)	Recessed (75mm)	Recessed (100mm)	Recessed (75mm)	Recessed (100mm)
600	600		■	■	■	■	■		■	■	■	■		■			
750	600	■	■		■	■								■	■		
750	750	■	■		■	■			■	■				■	■		■
900	600	■	■	■	■	■			■	■				■	■	■	
900	900	■	■	■	■	■		■	■	■				■	■		
1000	1000	■	■	■	■	■			■			■					
1200	400																
1200	675	■												■	■	■	
1200	750		■						■								
1200	900	■	■	■	■	■			■					■	■		
1200	1000	■			■												
1200	1200	■	■	■	■	■			■					■	■	■	
1500	600																
1500	900	■		■	■	■											
1500	1000		■		■	■											
1500	1200	■	■		■												
1500	1500	■	■		■	■			■		■			■	■		
1600	1000				■												
1600	1200		■		■												
1800	600	■															
1800	675		■							■			■				
1800	750								■								
1800	900		■											■			
1800	1800		■		■												
1900	600																
1900	1200		■	■	■	■											
2000	600			■	■	■											
2000	900																
2000	2000		■			■											
2200	900		■														
2200	1200																
2400	900				■												
2400	1200					■								■		■	
2500	1200		■	■	■	■											
3000	1200			■	■	■											
3000	1500				■												

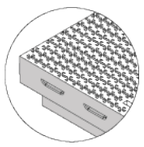
*Commonly supplied STAKKAbox™ ULTIMA Connect sizes, due to component format of the chamber other sizes are available.

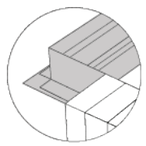

Raising Frame

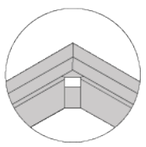

Standard Frame


Recessed Frame


Homezone Frame


Louvre Frame

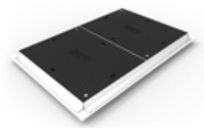

Hightop Frame


Block adjust

AX-S™ Covers

Composite (A15 - B125 - C250)

AX-S™ Composite covers offer a lightweight cover with no reduction in loading performance. A wide range of sizes can be manufactured utilising multi-cover frames and there are options for bespoke customer badging. Covers can also be fitted with locking features to enhance the security of the assets below.



Recessed (A15 - C250)

The AX-S™ Recessed cover range has developed a reputation in the construction industry for being high-quality, safe to use, value for money and secure when installed. AX-S™ Recessed covers are the sole approved footway cover used by end users such as BT Openreach and Virgin Media.

Concrete (B125)

AX-S™ Concrete Infill covers offer flexibility in size and design. A wide range of sizes can be manufactured utilising multi-cover frames and there are options for bespoke customer badging. Covers can also be fitted with locking features to enhance the security of the assets below.

Ductile (D400 - E600 - F900)

The Hinge Lock range of D400 ductile iron access covers fully comply with BS EN 124:1994 and carry the British Standard kitemark. Drop in D400 ductile iron access covers fully comply with BS EN 124:1994 and carry the British Standard kitemark.

STAKKAbox™ ULTIMA

A range of standard sizes for faster assembly of stackable sections

The ULTIMA range offers a number of standard, preformed chamber ring sizes to enable rapid on-site chamber construction. ULTIMA is constructed from the same materials, and offers identical technical performance, as ULTIMA Connect. ULTIMA chamber sizes have been selected to be reflective of the most commonly used traditional access chamber sizes. This makes ULTIMA an ideal retrofit solution for existing networks, minimising site disruption and installation costs

Installation Times Significantly Reduced

Access chambers that are cast in-situ can take a week to fully complete. It takes time to erect shuttering, install the rebar, pour concrete and waiting for it to cure. In comparison, ULTIMA can be completely installed in one day, including excavation, chamber install and backfill. This has a direct impact on cost as ULTIMA requires less labour and provides more time to complete other work on site.

ULTIMA Standard

Chamber	Clear opening (mm)		External Dimensions (mm)	Weight per section (kg)
ULTIMA	420	240	550 x 370	8
ULTIMA	500	500	626 x 626	9
ULTIMA	530	380	660 x 510	9
ULTIMA	800	800	926 x 926	13
ULTIMA	885	520	1120 x 755	17
ULTIMA	915	445	1041 x 571	11
ULTIMA	1160	380	1290 x 510	11
ULTIMA	1200	600	1326 x 726	19
ULTIMA	1200	1200	1326 x 1326	20
ULTIMA	1300	850	1436 x 976	16
ULTIMA	1310	610	1408 x 708	14
ULTIMA	1380	530	1506 x 656	16
ULTIMA	1500	750	1598 x 848	16

STAKKAbox™ ULTIMA Connect

Success Story

STAKKAbox™ ULTIMA Connect provides a unique bespoke solution

Project: Queen Elizabeth Olympic Park Stadium renovation

Client: London Legacy Development Corporation

Contractor: Balfour Beatty & PJ Carey (groundworks)

Products used: STAKKAbox™ ULTIMA Connect

Cubis supplied large chambers for turning of large high-voltage power cables in the build in time for the 2012 Olympic Games. The chambers were designed and manufactured using the original 'cut and bolt' system to order, the largest being 6m x 3m x 3m (internal dimensions).

Two years after the games finished, the site was being re-configured for future use, which meant upgrading and diverting the buried infrastructure on site. Cubis were asked to supply a solution for two chambers that would be able to be retrofitted over the existing cable banks. The dimensions of these were to be 5.6m x 2.5m x 1.6m and 4.4m x 3m x 1.6m. In order to meet the criteria, Cubis supplied the ULTIMA Connect system in flat-pack format for this project.

Thanks to the component design, the chambers could be fabricated in situ to build around the ducts. This was done by forming two 'C shape' chambers around the duct bank until it reached the depth that allowed the chamber to be built normally over the top.

Each installation took less than a day to complete, including the assembly and backfill. This was significantly faster than alternatives, while offering a flexible solution for benching over existing services and creating duct entries.

STAKKAbox™ ULTIMA Connect

Success Story

STAKKAbox™ ULTIMA Connect provides greater savings in time and cost

Project: Heron Quays Road regeneration

Client: Canary Wharf Group

Contractor: PJ Carey (groundworks)

Products used: STAKKAbox™ ULTIMA Connect

Canary Wharf London, home to the UK's major business and financial districts has undergone significant development over recent years with the continued regeneration of the area. With ongoing works underway at one of the major access roads into Canary Wharf site access and storage of products needed on site is in extreme shortage. Cubis' STAKKAbox™ ULTIMA Connect chamber offered the perfect solution to the access and storage issues at the Heron Quays Road, Bank Street, London.

The product installation carried out at the Bank Street site to address power and telecoms networks to the whole of Canary Wharf, saw the introduction of one 2200 x 1200 x 1200mm deep ULTIMA Connect chamber delivered flat-pack on 5nr pallets. The chamber sections (17nr 2200x750x150mm deep sections & 40nr 2200x1200x150mm deep sections) presented as component parts allowed for enhanced maneuverability on site with no requirement needed for heavy duty machinery, whilst helping to overcome potential storage issues faced with the option of a pre-fabricated chamber.

ULTIMA Connect has been developed to offer greater flexibility in chamber sizes without compromising the strength of the standard ULTIMA system. Featuring the same twinwall and sectional design as the standard system the difference being that sections are built from combining multiple parts.

The system comprises of corner pieces ('hockey sticks') and sidewall lengths, a sequence which offers the ability to offset joints between sections in order to provide a solid, brickwork effect. These parts are connected using a jointing peg to form a variety of clear opening sizes.

The Cubis team visited the installation site to demonstrate techniques to site operatives on the process for constructing the ULTIMA Connect chamber from flat-pack to fully constructed chamber. The full chamber was constructed in under 50 Minutes.

Driven by Innovation

Cubis is Europe's leading manufacturer of network access pit and ducting systems, used in the construction of infrastructure networks for rail, telecoms, water, construction and power markets.

Cubis has developed an innovative approach in an old-fashioned industry. This has been achieved by developing quality products which replace traditional construction materials, like bricks and concrete, with lightweight plastics incorporating intelligent design features. These can then be installed faster and ultimately save our customers both time and money.

Cubis manufactures preformed network access pit systems STAKKAbox™, AX-S™ access covers, MULTIduct™ multiple duct system and RAILduct™ cable trough at its manufacturing sites throughout the UK and Ireland these products are exported to more than 25 countries throughout the World.

At Cubis we pride ourselves on delivering technical customer support, new innovation, product quality and the highest levels of customer satisfaction.

www.cubis-systems.com

Distributed by:

Melbye

Melbye Skandinavia AB
Fordonsvägen 17
553 02 Jönköping
Sweden

+46 (0)36-332 07 00
info@melbye.se

www.melbye.se