Telecoms Specification Guide







Innovative and Sustainable

Infrastructure Solutions

Cubis Systems redefines network access for modern infrastructure. A sustainable manufacturing leader, we specialise in composite solutions for underground utilities. Our product portfolio includes network access chambers, covers, cable protection systems, and a range of construction accessories.

Importantly, these solutions are modular, scalable, and lightweight. All of which means that they can be built on-site with speed and ease.

With significant – and measurable – benefits across sustainability, safety, and resource-savings, our solutions are designed to tackle your infrastructure challenges head-on.

Since 2009, Cubis Systems has formed part of the wider CRH group. For our customers, this means that while your specialist telecoms team is small enough to care – we are more than big enough to deliver.

CRH is the leading provider of building materials solutions that build, connect and improve our world. Employing c.78,500 people at c.3,390 operating locations in 28 countries, CRH has market leadership positions in both North America and Europe. CRH's unique offering of materials, products and value-added services helps to deliver a more resilient and sustainable built environment.

Operating under the umbrella of a Fortune 500 allows us here at Cubis to benefit from global reach and resources. We're able to leverage CRH's extensive distribution network and customer base – expanding our potential market presence and reach across different regions.

Our CRH family consists of many other global businesses offering building solutions you know and use. From Tarmac, to Oldcastle, we all operate together as #OneCRH with the same purpose and vision:

To develop sustainable solutions that build, connect and improve our world.



Technical Overview

We're here to support you, whether that's on-site, in your office, or remotely. We tailor our support to suit your needs – with the tools and expertise to deliver your project successfully.



Structural Calculations

We'll provide engineering calculations to the latest EN and BS standards.



Site or Office Visits

We'll be with you from concept design stage through to project completion.



Installation Advice

We're on hand to help with the usage and installation of our products.



Mechanical Testing

We test our products with third parties to ensure maximum resilience.



Product Development

We can work with you to develop a bespoke solution for niche problems.



CAD Drawings

We'll create bespoke drawings and specifications - any format required.



Detailed Take-offs

We'll supply a bill of quantities to save you and your QS team time onsite.



Optimising Designs

We can offer cost-saving design alternatives to make optimum use of our products.



Material/Environmental Testing

We engineer solutions for any condition, backed by environmental and chemical tests.





Innovation, efficiency, and sustainability are central to every project we deliver. By choosing Cubis, you're accessing high-quality solutions with minimised environmental impact.

Recycled and recyclable products

We limit the use of virgin materials. Our UK site has achieved up to 100% recycled PP in its products, and our operations in the Republic of Ireland have been able to incorporate 80-100% recycled HDPE through investment in on-site material processors.

Optimised energy use through digitalisation

Cubis is the only manufacturer of network access chambers and cable protection solutions to provide a BIM configurator. With access to a digital technical library, clients can ensure greater accuracy at design stage – minimising cost, time, and waste.

Carbon impact visibility

We can calculate the tonnage of carbon saved by using our products over the traditional concrete alternative. (Typically, ~80.7%.) Plus, with Environmental Product Declarations for all our products, we can give you precise visibility on the carbon impact of projects.

Optimised product lifecycle

We invest in continuous internal and external tests to better understand the performance of our products and how they will fare in various real-world applications. From thermal ageing testing to fatigue testing, we validate our products' longevity.

Lightweight, efficient, and faster installation

Our solutions are designed for smaller teams. There's no need for heavy machinery, and no need to bring in specialist equipment. So, both the carbon footprint of the installation and the overall environmental impact of the project are comparatively low.

Green partnerships

We work closely with our partners to embed sustainability in every stage of the project lifecycle. We also collaborate externally – including research with universities and industry groups – to stay ahead of emerging trends in sustainability and innovation.

Reduced weight and vehicle emissions

Our products offer a flat pack option. This increases their shipping density and helps reduce the number of vehicles we are responsible for putting on the road. Across our sites, we aim for load optimisation to ensure all deliveries are used to full capacity.

No unnecessary waste

We're committed to working smarter to minimise the waste produced from our operations. This involves regular audits and maintenance checks to ensure that both our processes and equipment deliver operational excellence.

Made in Britain

We're proud to be a British manufacturer. So, as well as the inherent sustainability of using our lightweight products, you gain clear green supply chain implications from using a UK and Ireland manufacturer.

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Building Information Modelling

(BIM) Library

We're proud to be the only manufacturer in our space offering a free BIM tool. Using the BIM configurator doesn't just help you design smarter with our 3D models. It can also deliver you significant, and fully measurable, savings.

Features & Benefits:



Easily drop our 3D product models into your designs



Identify and resolve design conflicts early-on, saving time and resources



Access precise data for better budget planning and analysis



Download our CAD files in any number of formats



Customise your project specs for fast calculations and data validations



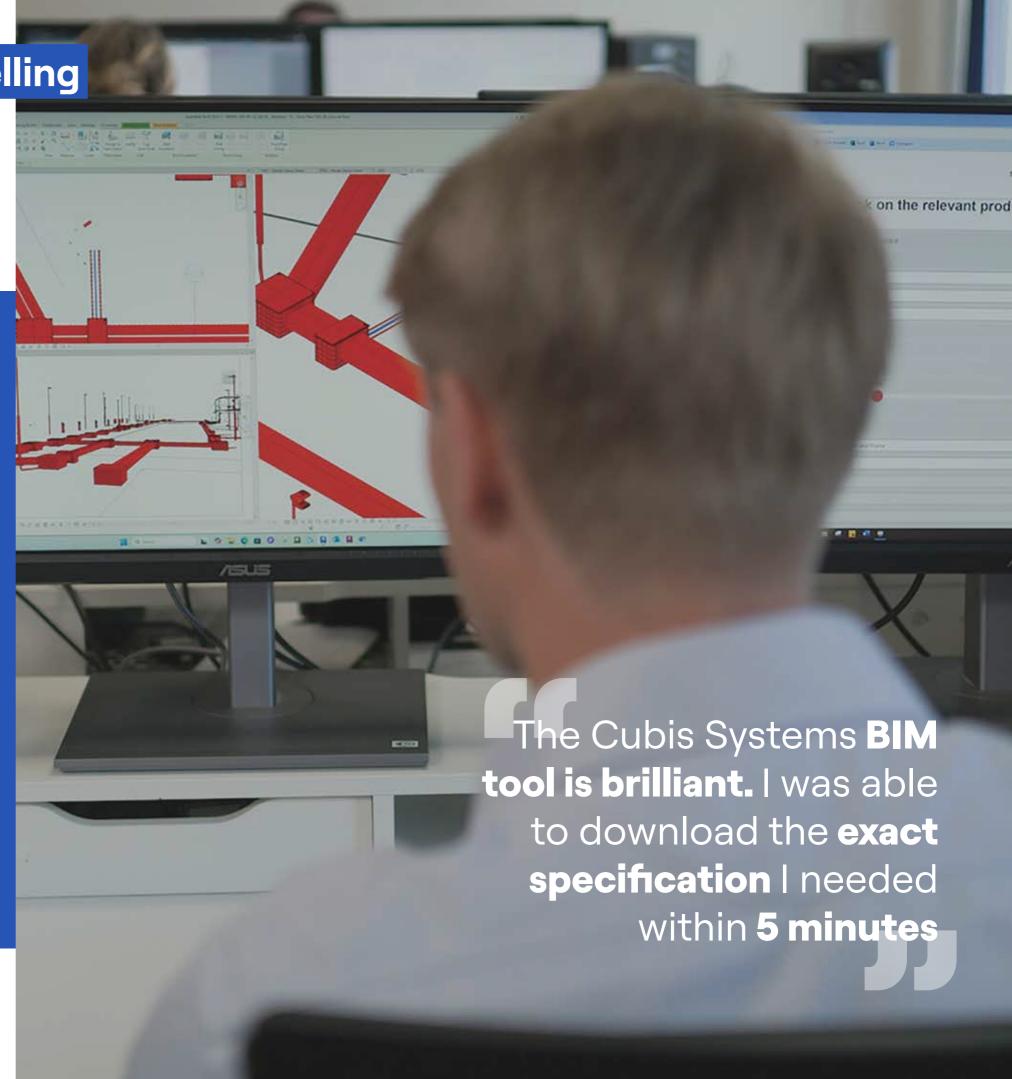
Work with our experts for custom sizes, quotes, and bespoke support

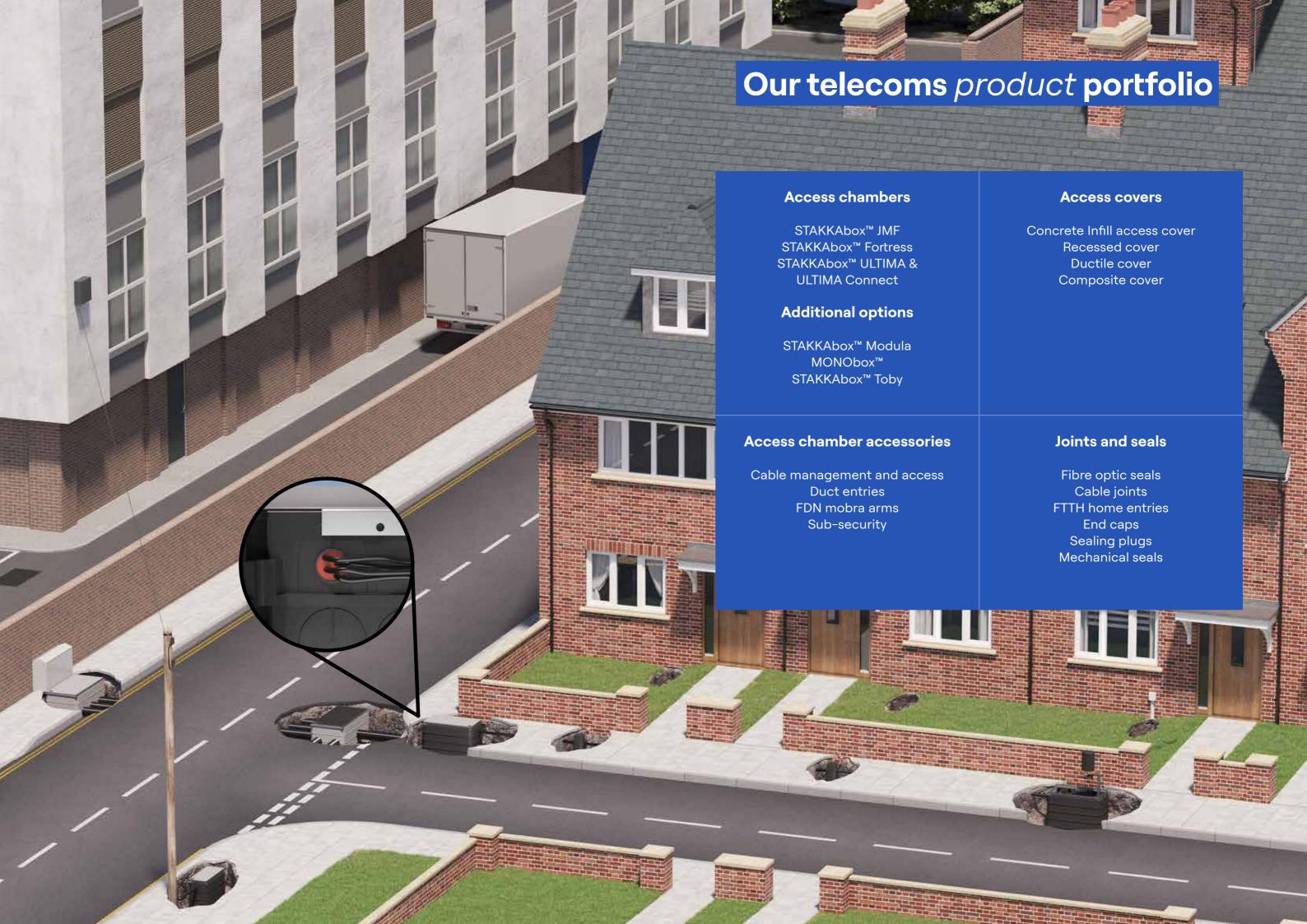


Deliver projects that are smarter, safer, and more sustainable



Ensure material optimisation and faster installation





STAKKAbox™ *JMF*

STAKKAbox™ JMF is an Openreach-approved modular access chamber. The solution is lightweight, modular, and pre-formed – providing a smarter alternative to traditional brick-built chambers.

Installers can stack 150mm sections on top of each other to achieve the desired chamber depth quickly and easily. This simple installation method enables complete builds in less than an hour – saving significant time, money, and effort.



Meet loading requirements up to B125 – in sizes 102, 104, and 106



Cut the overall cost, time, and carbon impact of your project



Cut, customise, and overbuild with no need for specialist tools or backfills



Internally ribbed sections to improve loading performance



Lift and handle safely thanks to lightweight design



Quickly meet Openreach quality requirements



Install with considerably reduced disruption, risk, and groundworks



HDPE mould with excellent strength to weight properties



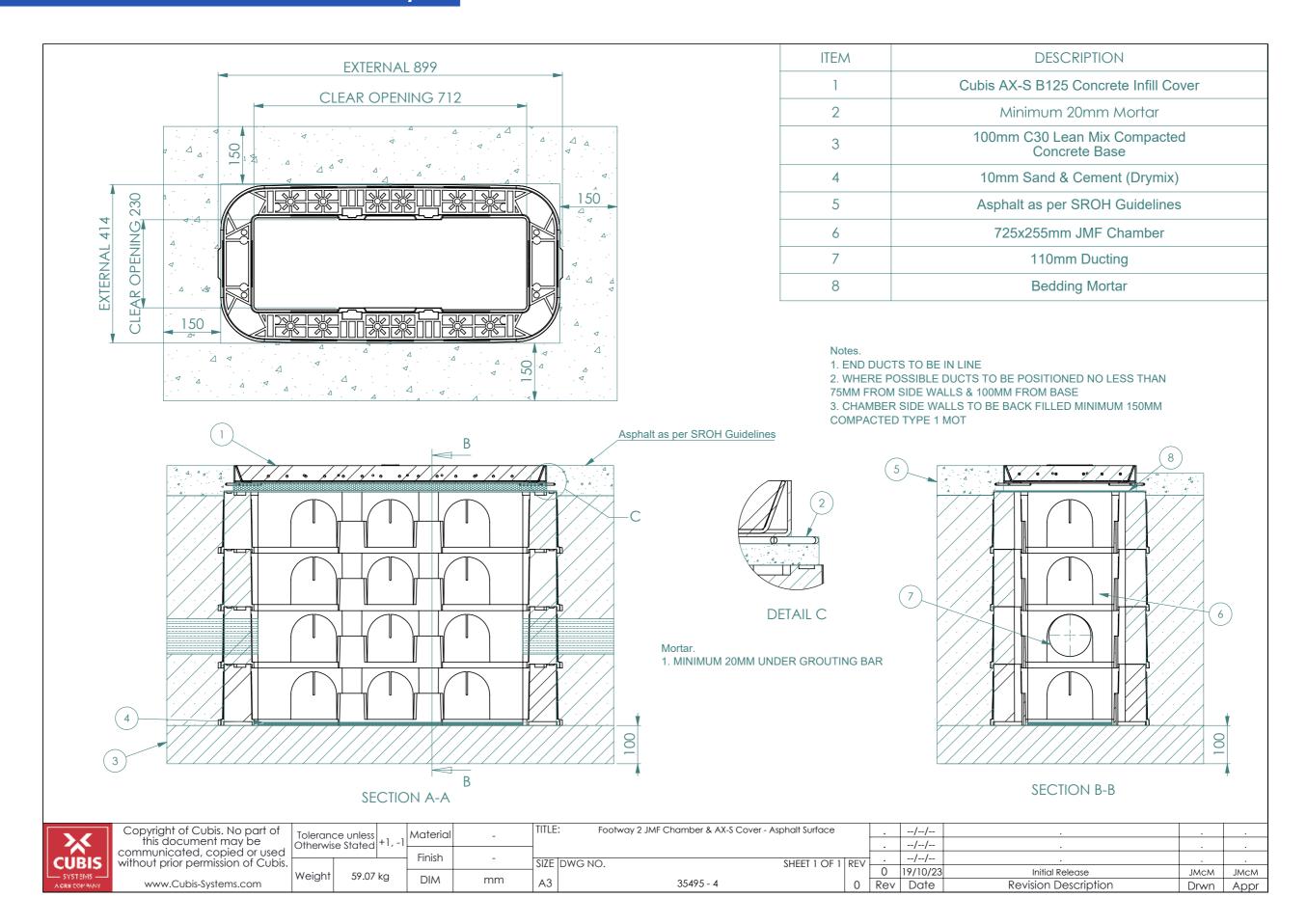
Consistently improve build quality and reduce defects



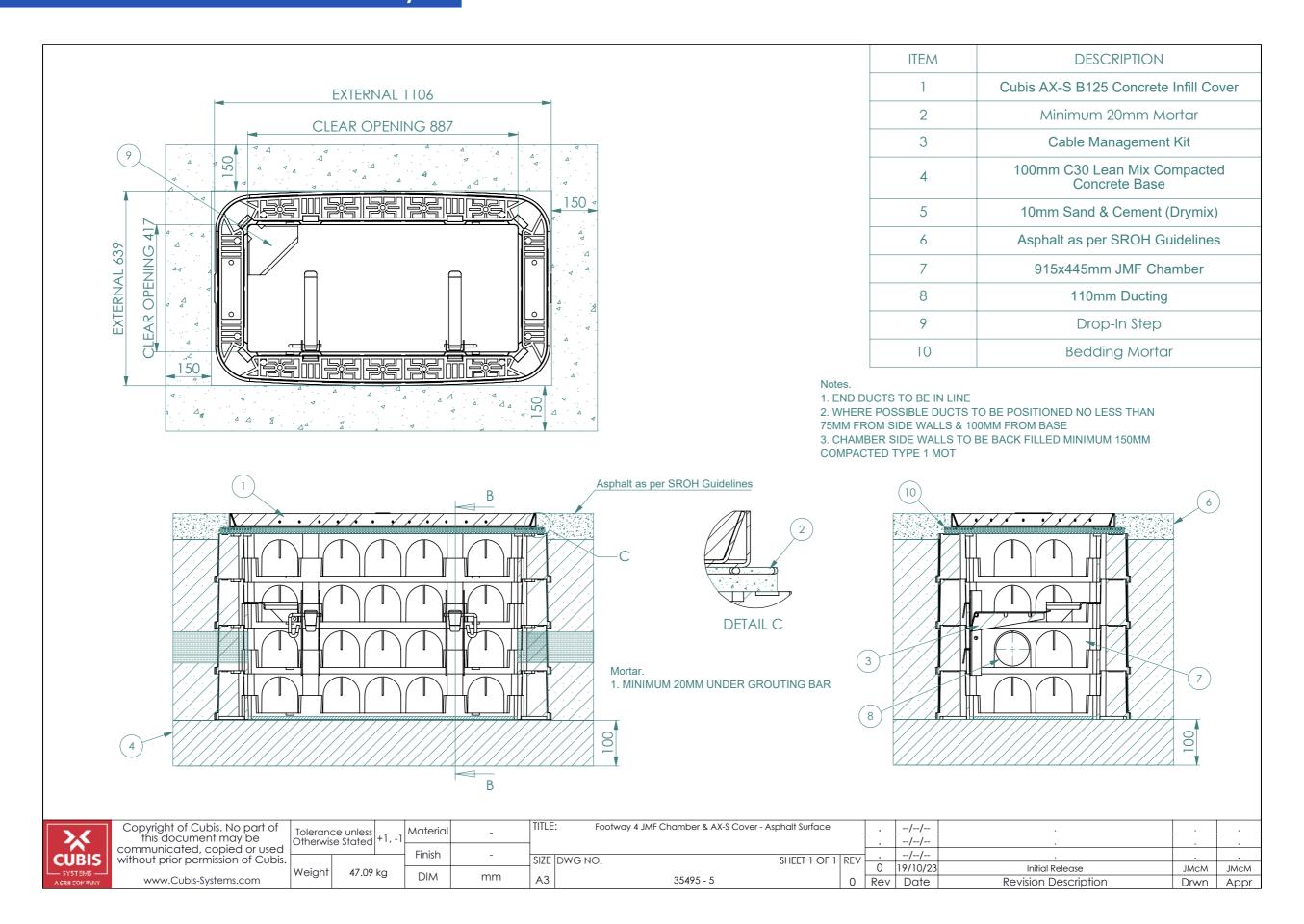
Frame lock-in feature and textured top for better mortar bedding



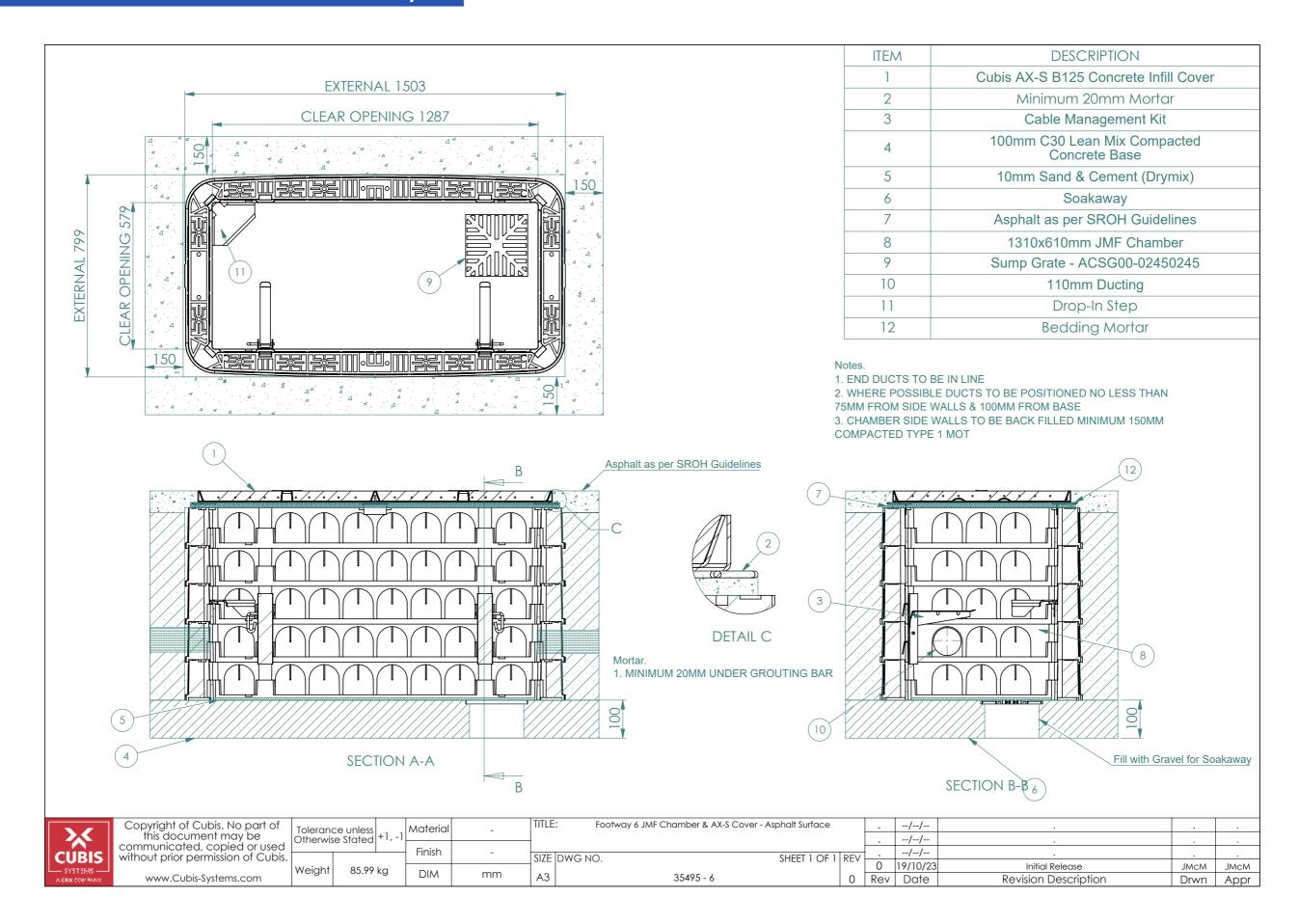
STAKKAbox™ **JMF** Footway 2

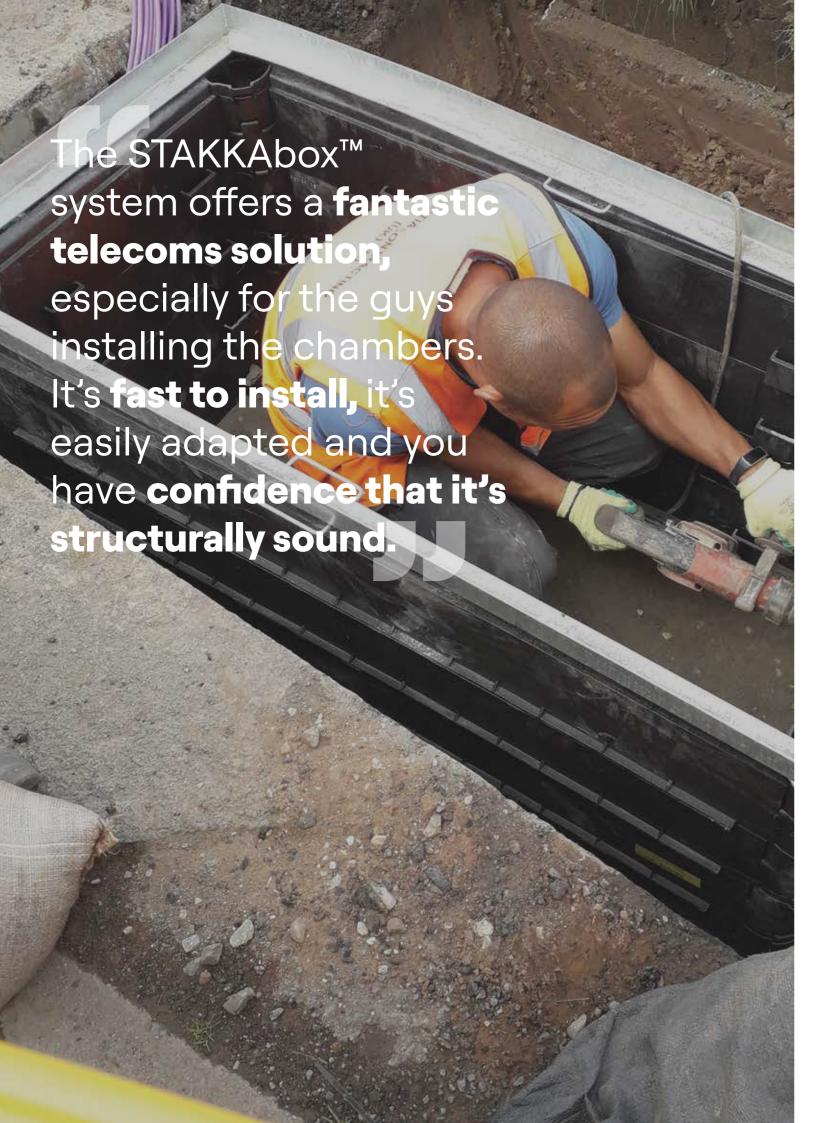


STAKKAbox™ **JMF** Footway 4



STAKKAbox™ **JMF** Footway 6





STAKKAbox™ Fortress

STAKKAbox™ Fortress is a go-to solution for telecoms projects requiring higher load ratings and durable access. Rated to D400 under EN124, the product is ideal for areas imposing wheel loads.

Robust HDPE design offers tested strength, while maintaining ease of installation and adaptability on site. And, with a range of accessories, installers can simply place, connect up tubes or ducts, backfill, and walk away.



Light, stackable 150mm sections for flexible depth and safe handling



Vertical and horizontal ribs give strength vertically and on the sidewall



Simple, intuitive manual installation with no need for wet trades



Reduces carbon impact – with up to 90% recycled material composition



Long service life with high resistance to corrosion



Installed by major UK telecoms companies for industry-approved performance



Reduced whole-life cost vs traditional concrete systems



Offers faster, more consistent builds than traditional materials

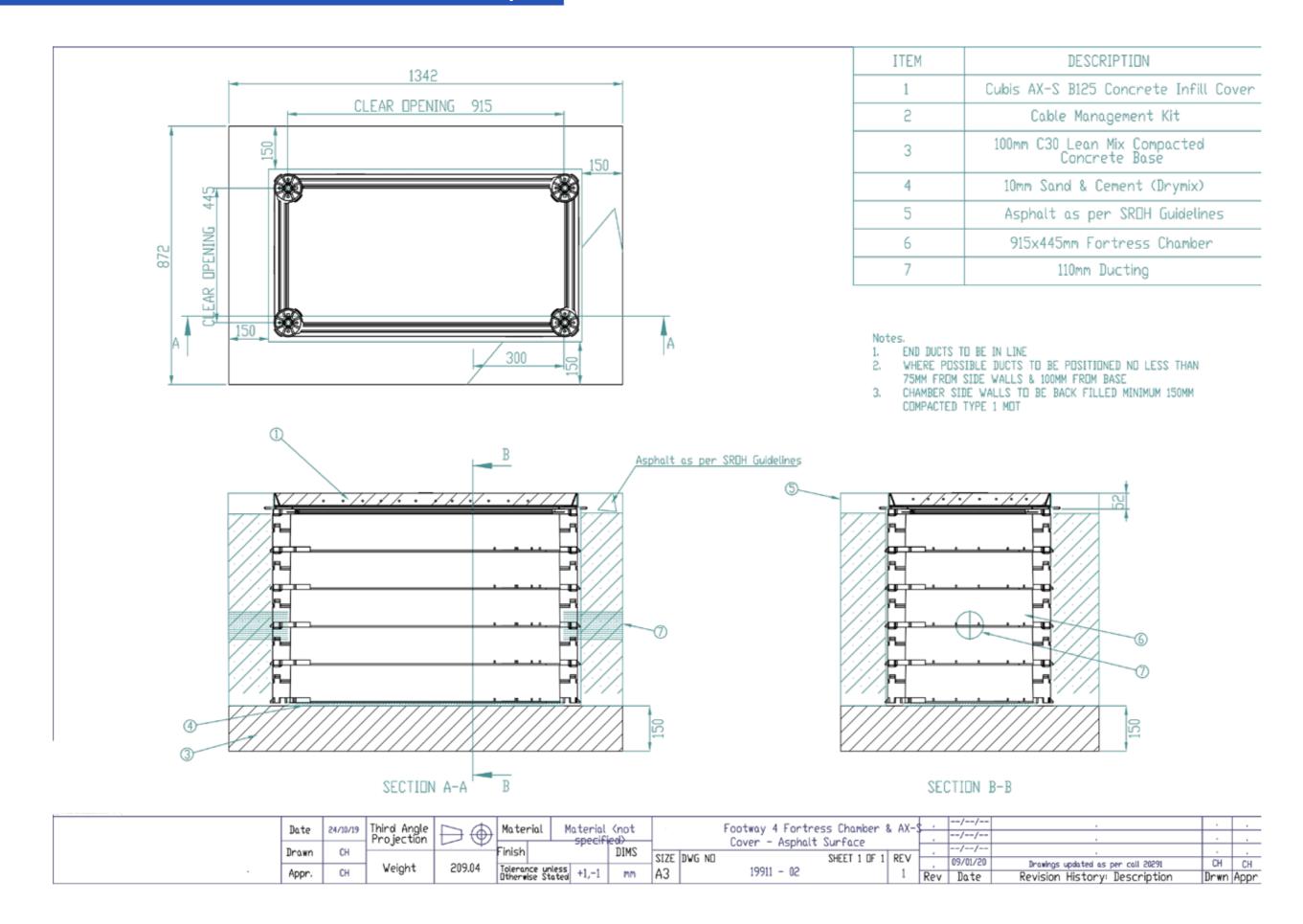


Can be conveniently flat packed for efficient, low-cost delivery to site

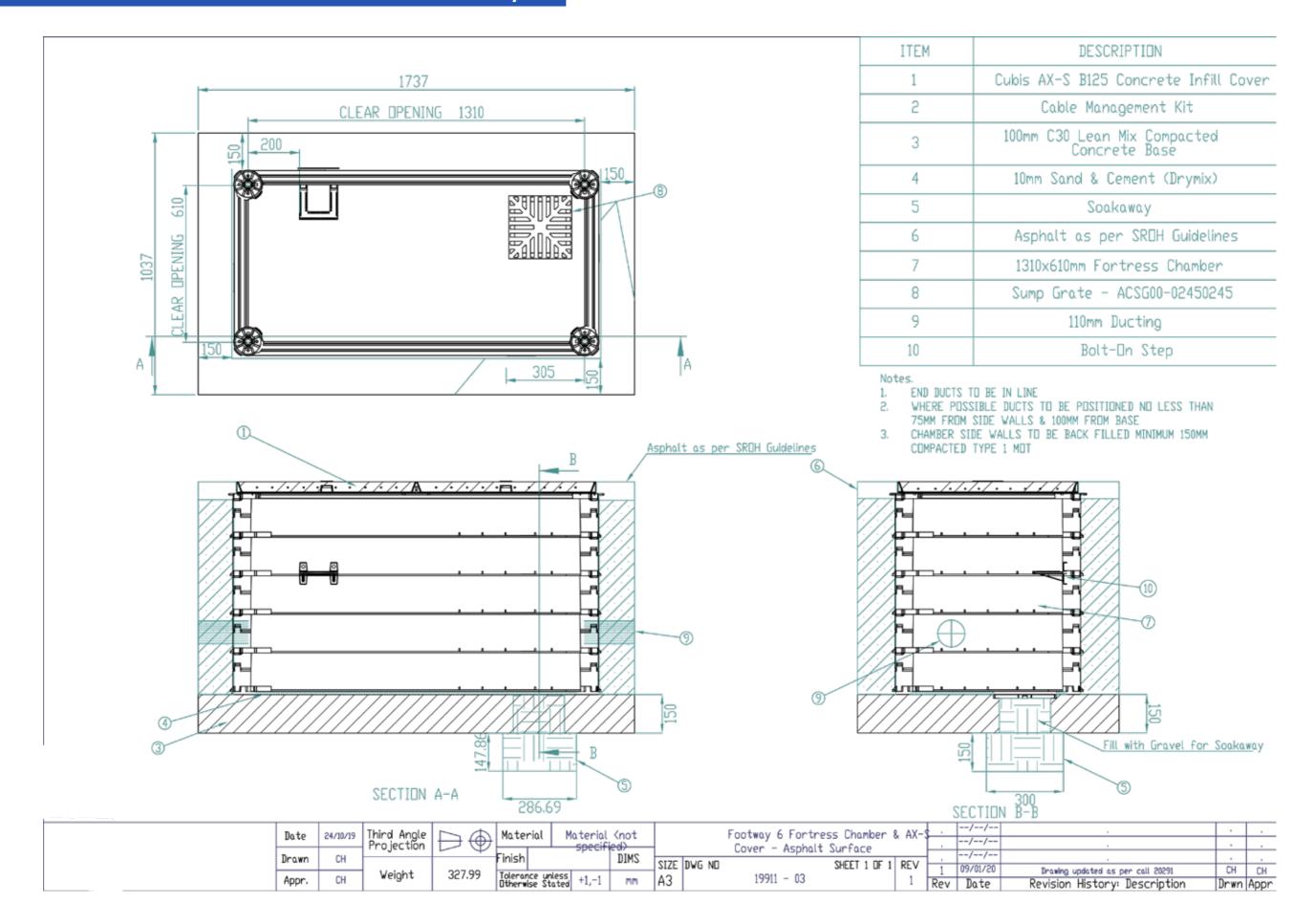


Significantly cuts the costs of network access chamber installations

STAKKAbox™ **Fortress** Footway 4



STAKKAbox™ **Fortress** Footway 6



STAKKAbox™ ULTIMA & ULTIMA CONNECT

Our STAKKAbox™ ULTIMA range is the ideal carriageway access chamber solution. It provides a versatile product that combines flexibility with GRP strength.

Designed to reduce time on-site and improve installation safety, ULTIMA is a more adaptable alternative to traditional concrete or brick chambers. If you need a solution with heavy-duty strength, the ULTIMA is the most versatile solid ring chamber system capable of meeting F900 loadings.



Compliant with Openreach, and major UK telecoms standards



Easy to drill duct entries on-site for flexible configurations



Safe manual handling at >25kg per lightweight ring



Easy to retrofit, with minimised disruption and reinstatement costs



No requirement for wet trades, specialist plant, or exotic backfills



Reduces carbon impact versus traditional methods



Smooth outer walls and an outer lip that keys into the backfill



Stackable, castellated 150mm ring sections for tailored depth



Fire-retardant, size-variable, and compatible with multiple covers/accessories



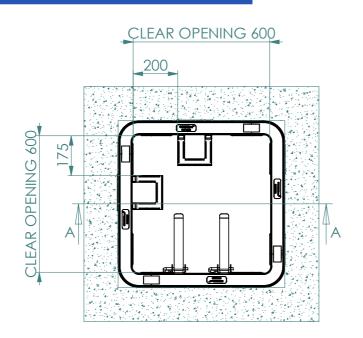
High vertical and lateral load-bearing capability

We foresee substantial time and cost savings when replacing or upgrading pull/splice boxes-quickly and with minimal impact.

Applications: Carriageway 1, Carriageway 2, Carriageway 3, Footway 10

STAKKAbox™ ULTIMA & ULTIMA

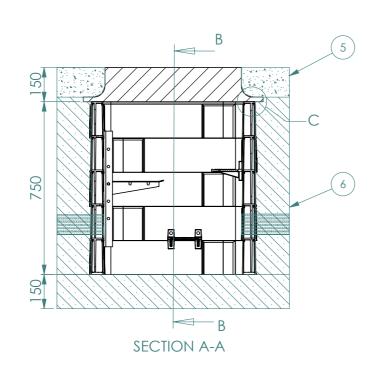
CONNECT Carriageway 1

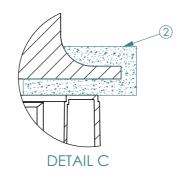


ITEM	DESCRIPTION		
1	Cubis AX-S D400 Ductile Frame & Cover - 150mm Deep		
2	20mm Mortar		
3	Type 1 MOT Compacted Backfill		
4	150mm Dry Lean Mix Compacted Concrete Base		
5	Asphalt as per SROH Requirements		
6	110mm Ducting		
7	600x600x750mm Ultima Connect Chamber		
8	Bolt-On Steps		

Notes

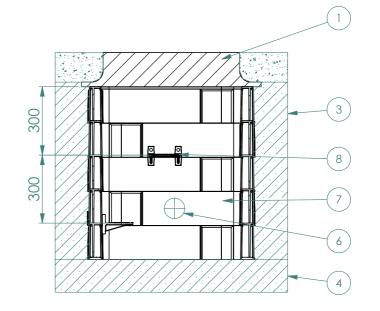
- 1. MINIMUM COVER TO CROWN OF DUCTS TO BE 450MM
- 2. BEDDING MORTAR TO COMPLY WITH HA104/09
- 3. BASE TO BE COMPACTED DRY LEAN MIX CONCRETE
- 4. BOTTOM CHAMBER SECTION TO BE SET 20MM INTO





Mortar.

- 1. MINIMUM 20MM UNDER FLANGE
- 2. MINIMUM 10MM OVER FLANGE
- 3. MINIMUM 50MM WIDER THAN FLANGE



SECTION B-B



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Tolerance unless Otherwise Stated +1,-1

- SIZE D

TITLE: CW1 STAKKAbox Utima Connect Chamber & AX-S D400 Ductile Frame & Cover

SIZE DWG NO. SHEET 1 OF 1 REV

35495 - 1

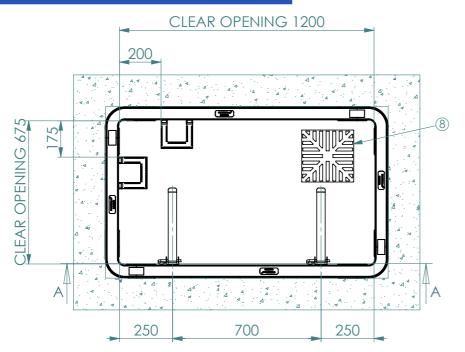
SHEET 1 OF 1 REV 0 0 Rev

REV 0 19/10/23 0 Rev Date

Initial Release JMcM JMcM
Revision Description Drwn Appr

STAKKAbox™ ULTIMA & ULTIMA

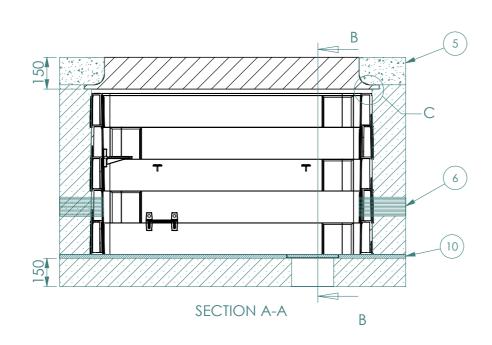
CONNECT Carriageway 2

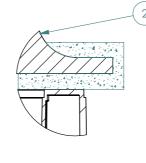


ITEM	DESCRIPTION		
1	Cubis AX-S D400 Ductile Frame & Cover - 150mm Deep		
2	20mm Mortar		
3	Type 1 MOT Compacted Backfill		
4	150mm Dry Lean Mix Compacted Concrete Base		
5	Asphalt as per SROH Requirements		
6	110mm Ducting		
7	1200x675x750mm Ultima Connect Chamber		
8	Sump Grate		
9	Bolt-On Steps		
10	10mm Sand & Cement Floor		
11	Wall Bearer & Cable Bracket Kit - CW2		

Notes

- 1. MINIMUM COVER TO CROWN OF DUCTS TO BE 450MM
- 2. BEDDING MORTAR TO COMPLY WITH HA104/09
- 3. BASE TO BE COMPACTED DRY LEAN MIX CONCRETE
- 4. BOTTOM CHAMBER SECTION TO BE SET 20-50MM INTO FLOOR

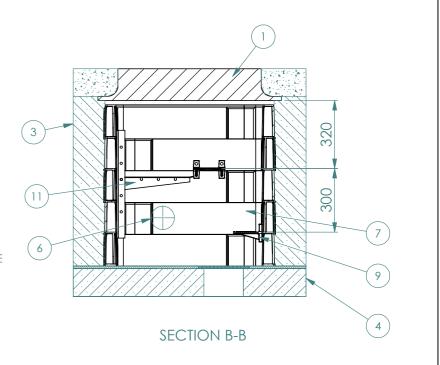




DETAIL C

Mortar.

- 1. MINIMUM 20MM UNDER FLANGE
- 2. MINIMUM 10MM OVER FLANGE
- 3. MINIMUM 50MM WIDER THAN FLANGE



CUBIS	,
A CRH COMPANY	

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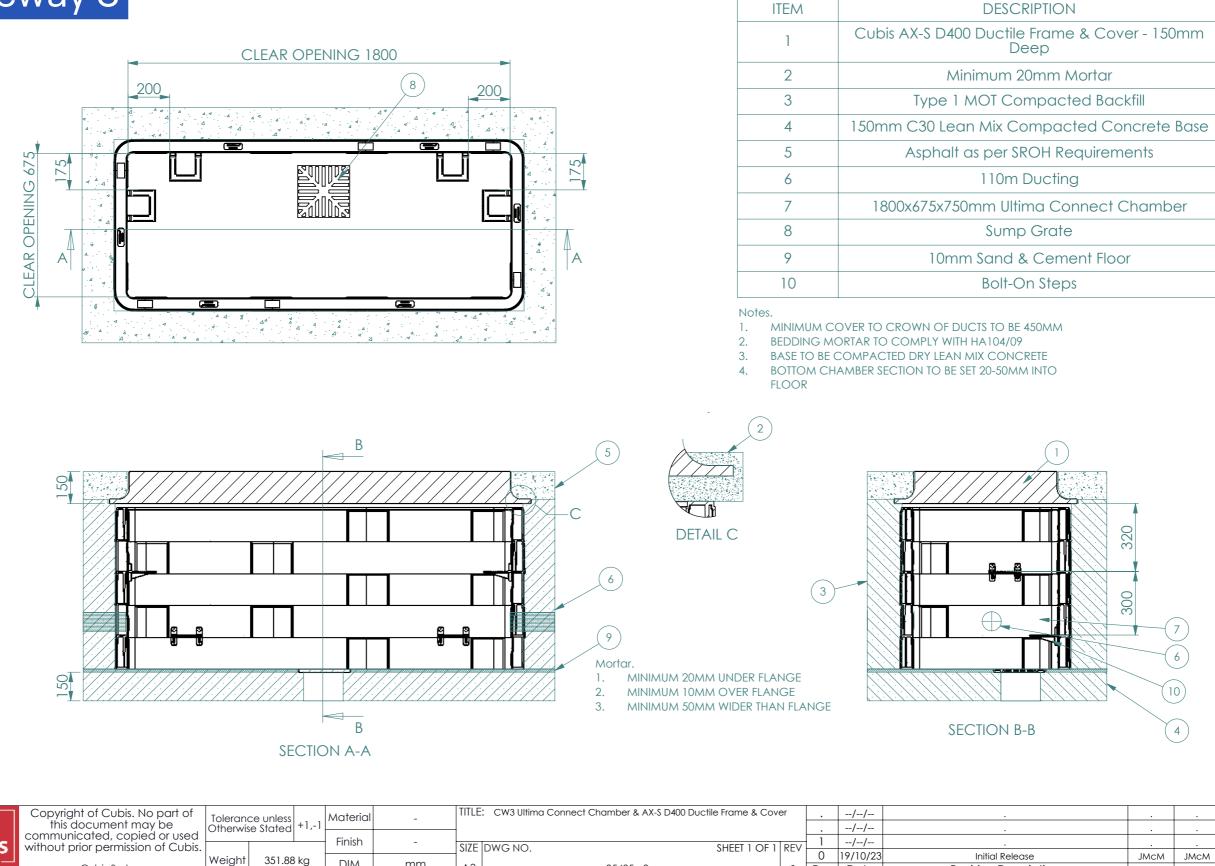
-	TITLE	CW2 STAKKAbox Ultima Connect Chamber & AX-S D400 Ductile		
	1		& Cover	
-				
	SIZE	DWG NO.		SHEET 1 OF
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			25405 2	

-S D400 Ductile Frame		//	
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	Rev	Date	Revision

STAKKAbox™ ULTIMA CONNECT

www.Cubis-Systems.com

Carriageway 3



35495 - 3

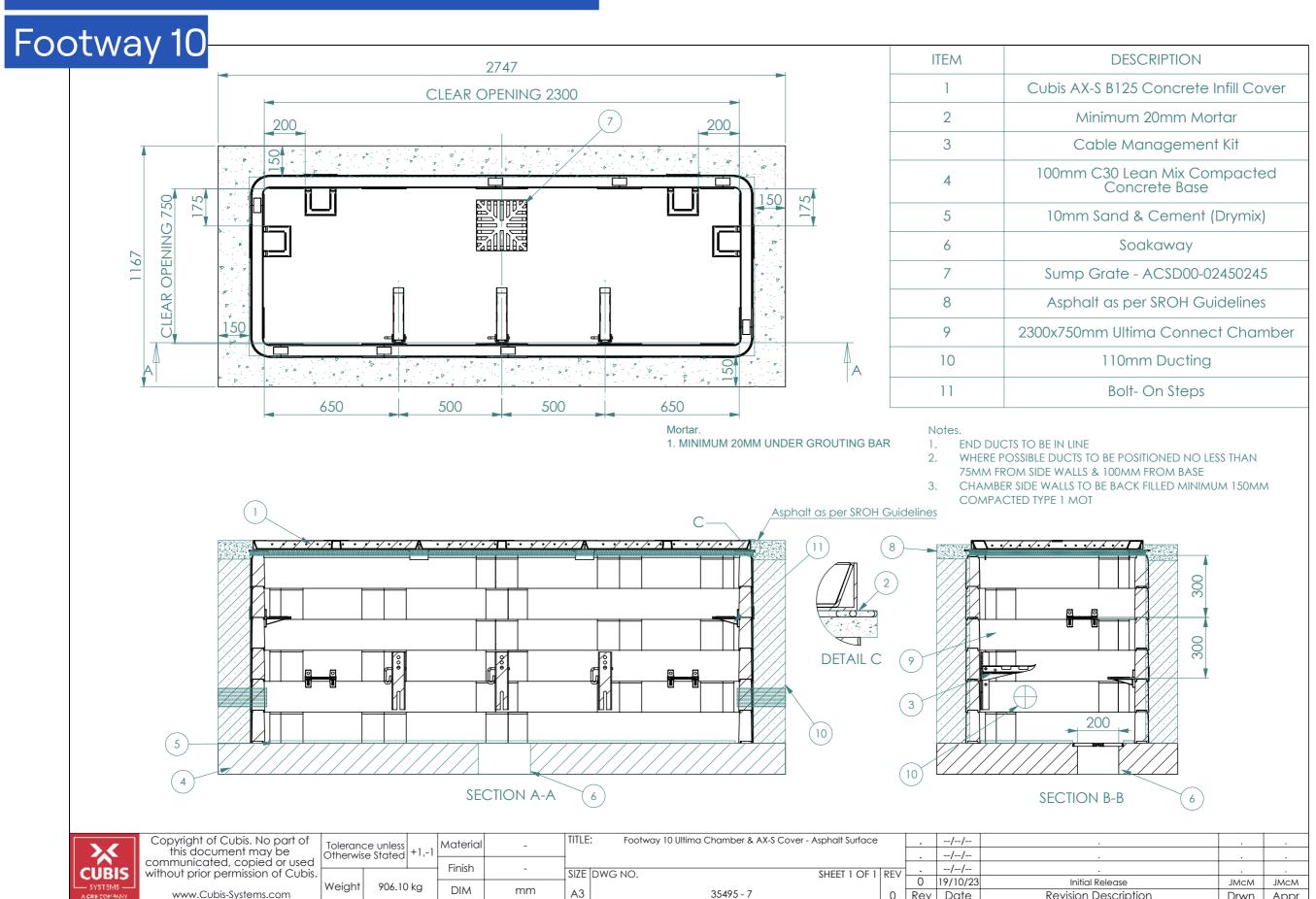
0 Rev Date

Revision Description

Drwn Appr

STAKKAbox™ ULTIMA CONNECT

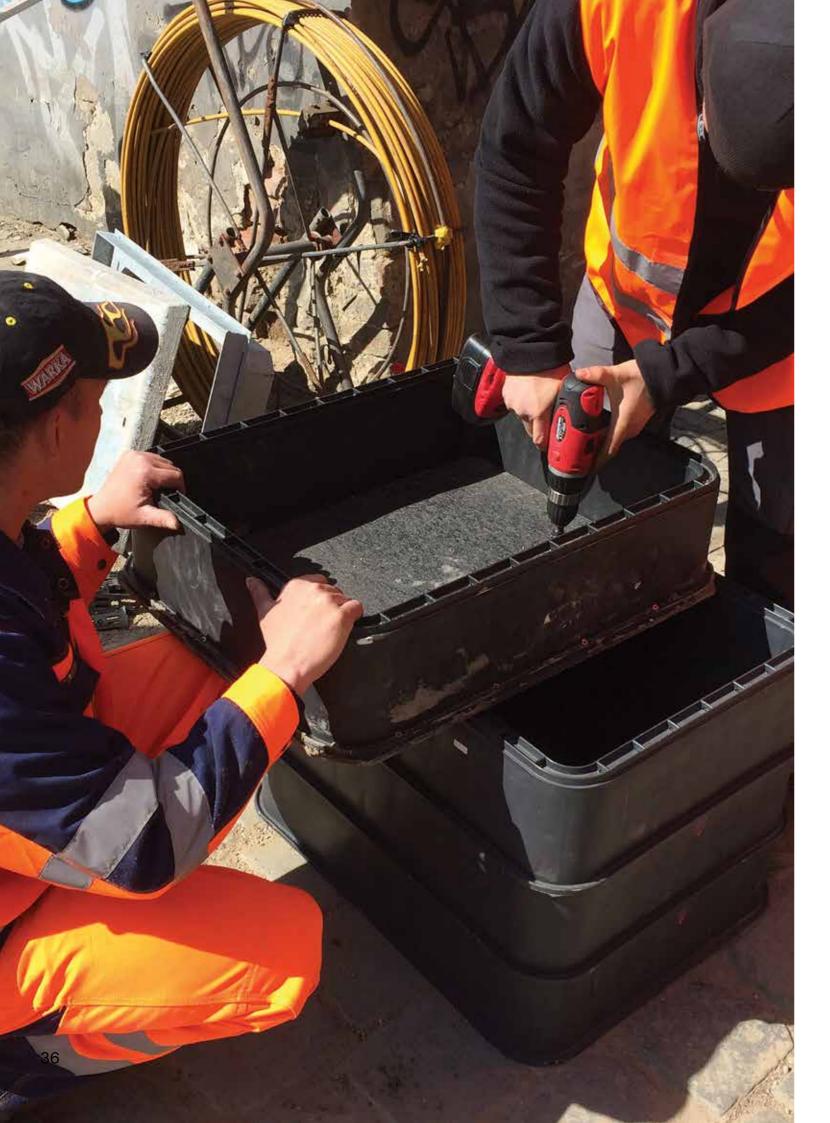
www.Cubis-Systems.com



0 Rev Date

Revision Description

Drwn Appr



STAKKAbox™ MODULA

STAKKAbox™ Modula is engineered for rapid deployment in telecoms networks. Designed for adaptability and speed, it uses twinwall stackable sections to create bespoke chamber depths on site – no wet trades or lifting gear required.

The solution is trusted across a wide range of fibre, connectivity, and upgrade programmes. Its lightweight, modular design will speed up project delivery, lower carbon impacts, and reduce civil disruption.



Pre-drilled for ease of connection, with handy knock-out duct caps on each side



Rapid, de-skilled installation requiring minimal tooling



Easily adapt as needed to overbuild, introduce ducts, or adjust top-sections



Enables multiple sizes via stackable component design



Polypropylene (PP)
construction ensures excellent
strength to weight properties



Offers clear openings from 150 x 150 up to 900 x 900



Safe for single-person lifts, with all 150mm sections weighing less than 11kg



Reduces access chamber installation time down to less than an hour



Manufactured from recycled materials, and recyclable again at end of life



Stack ring sections, connect tubes or ducts, backfill, and walk away

MONObox™

Our MONObox™ range offers prefabricated, single-piece footway chambers. These underground joint boxes offer significant advantages over the more traditional methods of forming a jointing enclosure.

The MONObox™ is an ideal quick-deploy option for small-scale telecoms access. Our primary options in this sector are the Joint Box 23 and the Joint Box 26 – designed for speed, simplicity, and strength.



A pre-formed joint box moulded from lightweight yet immensely strong HDPE



Enables easy, sub-15 minute installs



Impervious to water and totally rot-proof



No stacking – quickly and easily place the chamber, connect ducts, and backfill



Won't support microbiological growth



Available for installations in grass verges, carparks, and footpath applications



Rigid and durable, with no seams or welds



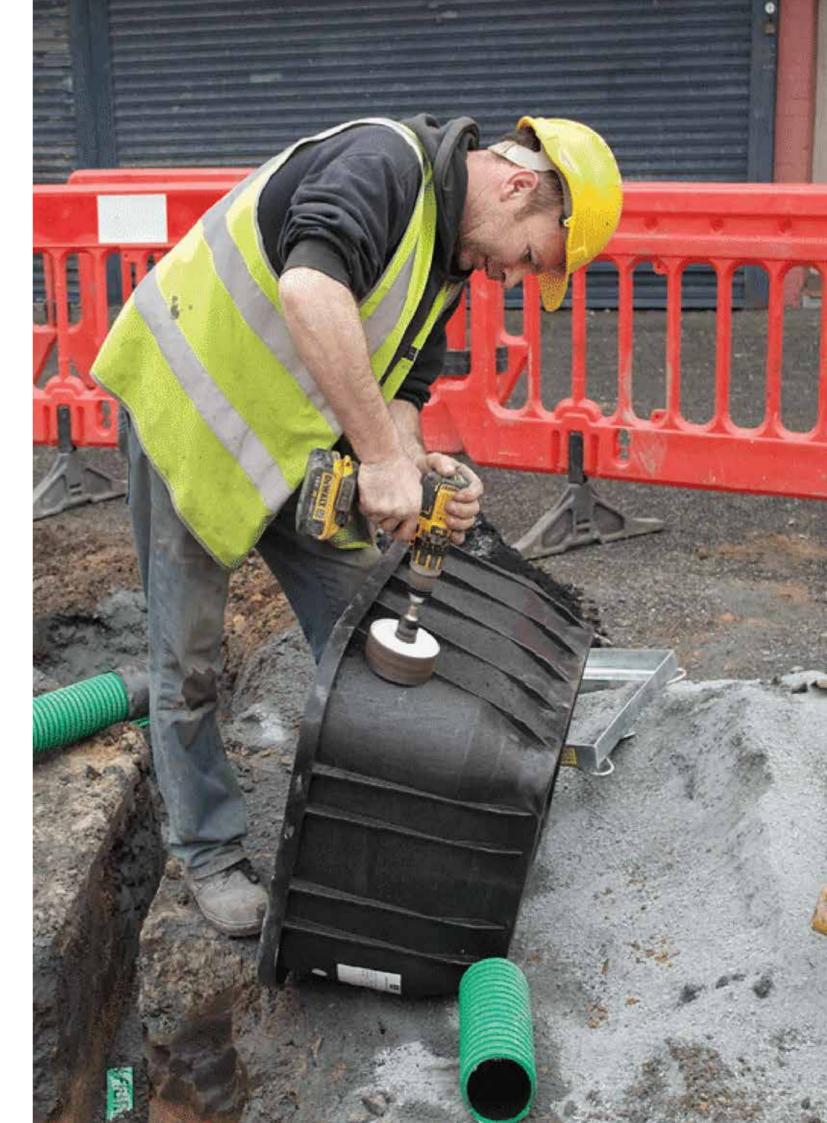
Load rated to EN124 B12



Manufactured under a system of rigidly applied quality control



Ranging from 7.3kg (JB 23) to 9.9kg (JB 26) – safe and easy to manually handle





STAKKAbox™ TOBY

STAKKAbox™ Toby provides an efficient solution for small-scale telecoms infrastructure needs. A lightweight joint box, Toby is primed for areas without pedestrian footpaths.

Its one-piece moulded design and recycled content make Toby a smart choice for sustainability-conscious projects with a need for compact access solutions. And, as with all STAKKAbox™ chambers, Toby is significantly safer and faster to install than conventional alternatives.



Perfect for minor telecoms access needs along rural roads



Suitable for installation in environments rated to BS5834 Grade A Heavy



Available in a robust, solid ring section with smooth outer walls



Twinwall and internal ribbing for improved loading performance



Compact clear opening of 150mm x 150mm



300mm deep, built up with a 120mm ductile iron cover



Quickly installed in new projects and retrofitted into existing networks



Made from durable, high-grade recycled Polypropylene



Easily handled, easily installed, and easily adaptable to on-site conditions



Can also accommodate deeper installations (<720mm) with an extra section

ACCESS COVER

Our concrete infill access cover is the industry's go-to footway choice. It provides a secure, durable covering solution for telecoms chambers installed in high footfall areas such as footways, pedestrian areas, and car parks.

The solution combines strength, flexibility, and industry-standard compliance. We have now specialised in its manufacture for some 30+ years. With full design flexibility, our concrete infill covers are trusted for use over telecoms chambers of any size or depth.



Suitable for installation in environments rated to B125 under EN124



Offers a durable finish with excellent slip resistance that only increases over time



Kitemarked for compliance with relevant European and British standards



Can be badged with customer information for easy identification by operatives



Approved and extensively used by Openreach and other altnets



Extensive installed service life – giving you lower total long-term costs



Tapered sides and central lift points allow for easy single-person manoeuvring



Locking options to suit your needs – securing access to the network below



Safeguarded against theft/ replacements with no inherent scrap value



Available in bespoke sizes plus easy combination options for larger chambers



Applications: Footways, pedestrian areas, car parks, parking decks



RECESSED ACCESS COVER

For landscaped areas, we offer high-quality recessed access covers. Designed to be filled with matching block paving or tile, the solution blends seamlessly into surrounding surfaces for a discreet finish.

The recessed cover option provides proven strength without compromising on appearance. For telecoms projects that require both access and aesthetics, it provides the perfect finish.



Specified with sole approval by multiple major utility providers



Meets EN124 loading requirements, and tested to meet loads unfilled



Recessed tray accepts any paving or tile insert to maintain a desired look



Trusted in shared spaces where pedestrians and vehicles move together



Made from 6mm rolled steel that can handle the weight of filled materials



Meets relevant European and British standards with kitemarked certification



≤78kg filled – safe for single-person handling via a lift and slide design



Supports urban design and planning requirements for easy specification



Customisable sizes, badging options, and locking options to suit any project



Can be safely removed by one person via tapered sides and central lift points

COMPOSITE ACCESS COVER

Composite covers offer a lightweight cover with no reduction in loading performance. They're ideal for telecoms sites that require regular access to equipment or data, and where speed and signal permeability are priorities.

The composite cover option is designed for safety and ease of handling. It can come in different load rating options to suit a mix of telecoms applications – from pedestrian-only areas through to kerbside channels.



Constructed from lightweight but durable GRP



Long service life once installed, providing lower total life costs



A wide range of sizes can be manufactured using multi-cover frames



Allows telemetry and radio signals to pass through without cover removal



Options for bespoke customer badging for identification and awareness



Meets the vertical load classes of A15, B125 and C250 set by EN124



Anti-slip tread pattern that exceeds a Slip Resistance Value of 80



No inherent scrap value – reducing potential security or theft issues



Weighs less than 30kg, allowing for easy removal



Can be supplied with a number of frame options and locking options



Applications: Footways, pedestrian areas, car parks, kerbside channels



ACCESS COVER

Our ductile iron cover offers a heavy-duty, high-strength option for high-traffic or vulnerable telecoms locations. It delivers performance and peace of mind, boasting kitemarked BS EN124 compliance and D400 load rating.

Frequently chosen for telecoms projects requiring extra strength and security, the ductile iron cover ensures long-term performance under repeated vehicular and pedestrian traffic.



D400-rated for compliant carriageway installations



Superior compression strength, fatigue strength, and abrasion resistance



Can come with multiple optional extras to suit each network's specification



Sits atop the chamber, bedded in mortar and finishing flush with ground-level



Multiple bespoke locking options to protect critical network assets



Seating contact areas and frame and flange thickness ensure durability



Available in hinged design for easy one person access



Made of quality 500/7 grade ductile iron and robustly control-tolerance tested



Embossed and welded badging options to allow easy asset identification



Indexed for ease of fitting, with a locked, sequential opening system

CHAMBER ACCESSORIES





1 Access

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

2 Cable Management

Used to support cabling in underground networks our high-strength galvanised and plastic fittings, keep cables dressed and organised perfectly within the chamber.

3 Bases

These are securely fitted to a ring section or bottom of a chamber to provide a clean finish that prevents vegetation and silt from entering the base of the chamber.

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.

4 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.

5 Sub-Security

Openreach approved steel plates – bolted onto the chamber's top ring section with easy padlock fitting – add an extra layer of security to bar unauthorised access.



FIBRE JOINTS, SEALS, AND CONNECTION SYSTEMS





Fibre optic seals

Smart solutions for sealing fibre optic cable networks
– extensively used across Europe within major
telecommunications networks



End caps

Push-on end caps for ducts in fibre networks, and simple end plugs for temporary sealing of micro ducts



Cable joints

Delivering the latest technology in cast resin, gel joints, taped resin injection joints, and cable joints for low and medium voltage cables



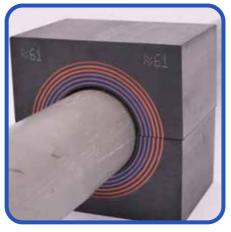
Sealing plugs

Providing effective, simple solutions to all splash water and dirt tight sealing requirements in HDPE ducts – ensuring optimal performance



FTTH home entries

High quality products for gas and watertight sealing of FttH home entries – covering multiple entry and duct needs



Mechanical seals

Installer-friendly mechanical sealing systems with colour-coded rings that make it simple to size up, strip back, and seal cable or pipe penetrations

52 53

TELECOMS PROJECTS SPOTLIGHT



Location: Nottinghamshire, UK

Solution: STAKKAbox™ JMF & concrete infill access covers

Highlight: Supplied modular access chambers for a new-build housing estate broadband rollout, enabling faster network connection across residential plots with tight timelines



Location: Bolton, UK

Solution: STAKKAbox™ ULTIMA & concrete infill access covers

Highlight: Installed in under two hours using lightweight, modular sections - meaning minimal disruption to an urban area with heavy footfall



Location: Newtownards, N. Ireland

Solution: MONObox[™] & concrete infill access covers

Highlight: Our pre-formed, single-piece footway chamber enabled sub-15 minute installs (including onsite installation of duct entries, cover installation, & backfill) to support fibre to 15,000 homes



Location: Stoke-on-Trent, UK

Solution: STAKKAbox™ Fortress & concrete infill access covers

Highlight: Supporting faster, more consistent, and more cost-effective builds than traditional materials - particularly impactful in ambitious city build programmes for dense, full-fibre networks



Location: York, UK

Solution: STAKKAbox[™] Fortress & concrete infill access covers

Highlight: Manufactured using up to 90% recycled materials, delivered in lightweight, optimised loads, and achieving up to 80.7% carbon reduction compared to traditional materials



Location: Edinburgh, Scotland

Solution: STAKKAbox™ ULTIMA & concrete infill access covers

Highlight: Helping smoothly reshape a riverside footpath into a future-ready telecoms access route as part of a citywide re-development initiative



Location: Wroclaw, Poland

Solution: STAKKAbox™ Modula & concrete infill access covers

Highlight: Robust Polypropylene composition offers tested strength, while maintaining rapid ease of installation and adaptability - perfect for the fast-scaling Polish telecoms network



Location: Melbourne, Australia

Solution: STAKKAbox™ ULTIMA & composite access covers

Highlight: Low-impact composite chambers in Melbourne's heritage-listed Treasury Gardens, combining maximum landscape preservation with fast-paced telecoms access

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Driven by Innovation

Cubis is Europe's leading manufacturer of network access chamber 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 chamber systems STAKKAbox™, 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.





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