



MADE IN BRITAIN
DISTRIBUTED WORLDWIDE

Laboratory Trunking CL3+



CABL  FLOW™
H E A L T H C A R E





Innovation is at the heart of an evolutionary healthcare infrastructure. Challenging boundaries whilst being respectful of clinical skills are two valued philosophies which ensure knowledge led developments in bedroom architecture.

At **CABLEFLOW** we recognise the need to be different, to ensure product development offers practical and sustainable progression whilst always ensuring full compliance with Patient Safety Standards and improving the clinical environment for clinicians and patients alike.

We are proud of our British healthcare heritage which offers universal application around the world. Having been conferred both a prestigious **Queens Award for Enterprise: Innovation** and a **Kings Award for Enterprise: Innovation** users of our products and systems take confidence in this unique recognition of Cableflow as a market leader.

Recognised as Britain's foremost medical supply unit manufacturer our range of products whether standard or bespoke offer solutions to satisfy many in-patient design concepts across all clinical environments whether primary or tertiary care areas, and every speciality in-between.

In 2005 our **integra** product became the first and only linear bedhead trunking system to achieve Royal recognition with a **Queens Award for Enterprise: Innovation** from Her Majesty Queen Elizabeth II. This achievement was further endorsed in 2023 with a **Kings Award for Enterprise: Innovation** for our (POAG) equipotential earth bonding socket.

Improving the clinical architecture, patient and clinician experience whilst ensuring flexibility and adaptation in later use are hallmarks of our innovative bedhead solutions. Whether in an acute hospital setting or more domestic environments such as Hospice's and the like our systems can be tailored to your requirements.



The use of dado trunking systems in laboratory environments is not a fundamentally new concept but is an area where great care should be taken in selecting the appropriate materials.

A frequently recurring problem in CL3+ labs is the installation of electrical sockets and services outlets generally, especially where penetrating the wall fabric impacts upon the sealed integrity of the room. Installation of standard back boxes into cavity walls will result in substantial effort being expended to seal these when it comes to validation, with limited success. The provision of sockets and other services outlets on a surface-mounted dado avoids most of these problems whilst offering flexibility to the overall installation and ease of maintenance.

RESILIENCE IN USE

The type of pathogens and biological agents within these environments is ever-changing, whilst the progress and advancement of science dictates that ever more harmful and destructive pathogens must be faced. The levels of containment usually required for working with such agents are determined by their categorisation (e.g: Containment Level [CL] 3 is required for Hazard Group 3 pathogens) and these reflect the increasing levels of health risk to those involved.

Bio-decontamination is key to ensuring that these laboratory environments remain safe, clean and reliably functional.

BIO-DECONTAMINATION

Severe fumigation and cleaning agitants such as viricides, bactericides or the like, including Vapourised Hydrogen Peroxide (VHP) or formalin (Formaldehyde) gassing amongst others, present product selection challenges. Formaldehyde is a very hazardous substance and used in concentrations way above the accepted safe levels.

As pathogens increase in complexity and resistance harsher bio-decontamination requirements will often prevail and product selection is critical.

Given the harshness of these 'kill' agents, selecting an appropriate building services containment system which is resilient over time and can withstand exposure to these chemical cleansing processes remains paramount.

It is proven that selecting the right materials for the containment will be key to the longevity of the installation design.

EXTRUDED ALUMINIUM

Cableflow's relentless quest for design perfection, where innovation and technology combine, ensures we create the most revolutionary products for the most abstract and demanding environments, such as CL3+ labs.

Carefully designed extruded aluminium trunking systems with hinged lids for ease of maintenance access and a resilience tested polyester powder coat finish, ensures a product capable to withstand the test of time, all supported by a 25 year Manufacturers Guarantee.

Extruded aluminium offers a longer life and appearance over any other material and is best suited to the harsh biomedical environments encountered in laboratory locations.

Our systems have been **independently tested** for resilience to the harsh environments of CL3+ laboratories making it the product of choice for many specifiers and end users.

Multi-compartmentation using earthed aluminium dividers ensures the segregation and screening of cabled services whilst cast aluminium corners allows for any building shape to be accommodated ensuring a robust and durable end product.



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Knowing that the agent used won't cause a failure of the trunking system or its components is important to the overall functionality of the area.

Alongside performance is appearance, safe in the knowledge that discolouration and durability of the finished system is not adversely affected during use and regular de-fumigation activities.

Resilience to bio-decontamination chemicals and the ease of de-fumigation are key hallmarks of Cableflow systems.



BUILDING SERVICES INTEGRATION

An accepted principle of CL3+ Laboratory design is that over complicated M&E installations should be avoided and designs which duly consider the maintenance capability of the client adopted.

Specifically designed internal component assemblies of stainless steel facilitate maintenance and aid resilience in the bio-decontamination process.

OFF-SITE MANUFACTURING

Making use of our Off-Site Manufacturing (OSM) capability, bespoke modules can be pre-assembled and cabled using composite cabling solutions. The integrity of the installation is maintained and ensures projects can be completed on-time and on-budget. Interfacing with sealed cable entry points to the CL3+ area ensures the complete installation design has end-to-end functionality.





IP RATED OUTLETS

Given the harshness of laboratory environments and specifically where water jets may be used or testing cages using automated water feeders, IP 66 rated socket outlets and ancillary services can be mounted with ease,

Whilst the trunking enclosure cannot attain to IP 66 by its very nature of design those services contained and terminated therein are within enclosed IP66 sub-assemblies.

SWITCH & SOCKET DROPS

Ad-hoc switch drops, door entry mechanism contacts, CO₂ shut off buttons and the like are an essential security barrier in all CL3+ laboratories and annex rooms.

In many cases these will simply require a single drop or multiple drops at a single location and our mini-trunking option has been designed specifically to compliment the range, offering a total containment solution for all laboratory areas and associated spaces.



INCOMING SERVICES INTERFACE

Purpose made riser sections allow the interface with cabling from external cableways via bio resistant compression glands which maintain the integrity of the CL3+ pressure seal.

Ensuring a knowledge based design interface is key to our product offering.

Again manufactured from extruded aluminium with specially treated steel boxes, BS4662 fixings or bespoke as required, these components offer equal resilience to the rigours of CL3+ cleaning and environment usage.

Supplied in a range of finishes with aesthetic appeal, ease of installation and maintenance are primary design features.

Where underbench outlets are required this tertiary distribution trunking allows the simple interface with the dado system to ensure a composite and complete solution to cable management services.



LEGENDS AND LABELLING

The specific nature of individual accessory lids in hospital applications, requires that legends and usage instructions are clearly evident to the user. We adopt a policy of indelibly marking all text and legends on our systems thus ensuring a greater life expectancy for the component and making it easy for the user to identify the relevant service.

CORNERS AND END CAPS

All of our trunking configurations have purpose made metal end caps, powder coated to complement the system whilst ensuring that the overall aesthetics of the product are maintained.

By incorporating metal end caps, EMC compliance is maintained, which cannot be achieved where plastic or polymer end caps are used.

Should corner sections be required on any specific contract please contact our sales office for further information.

OFF SITE PRE-FABRICATION

While our CL3+ dado systems can be supplied in kit form for site assembly, the efficiencies of factory assembled pre-wired, pre-piped modules, with all outlets pre-configured, aids the simplicity of the product. Prefabricated modules can be fitted as a second or third fix item and later in the conventional construction programme.

EMC CERTIFICATION AND COMPLIANCE

Protecting electronic components in the patent environment from Electro-Magnetic Interference (EMI) and Radio Frequency Interference (RFI) is of paramount importance. Our CL3+ dado systems have been designed specifically to ensure that each chamber, and in turn each individual compartment, controls both the emission and reception of any such Interference.

By specifying **Cableflow** you can be satisfied that the EMC elements of BS EN 50085-1 have been complied with. All of our system solutions have been independently tested by BSI with all of the commercially available nurse call system in operation.



INSTALLATION

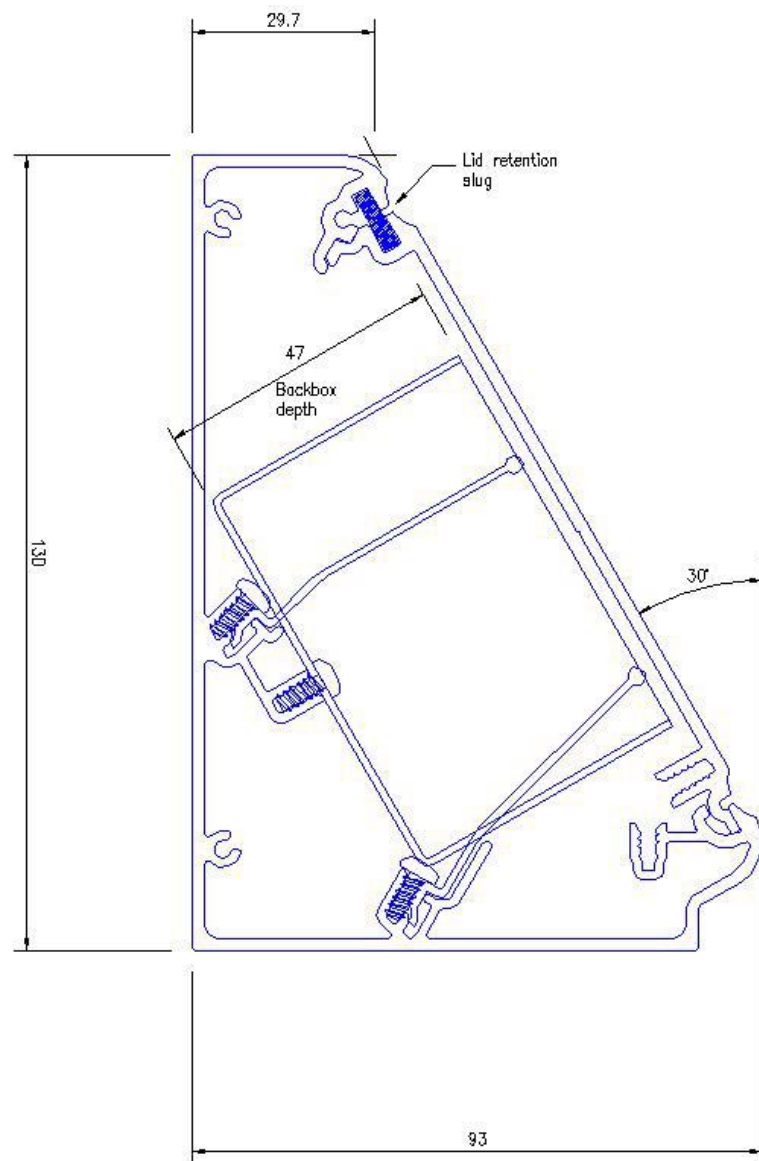
The system can be installed by any competent tradesman. However, are able to offer total supply and installation package from a specialist manufacturer.



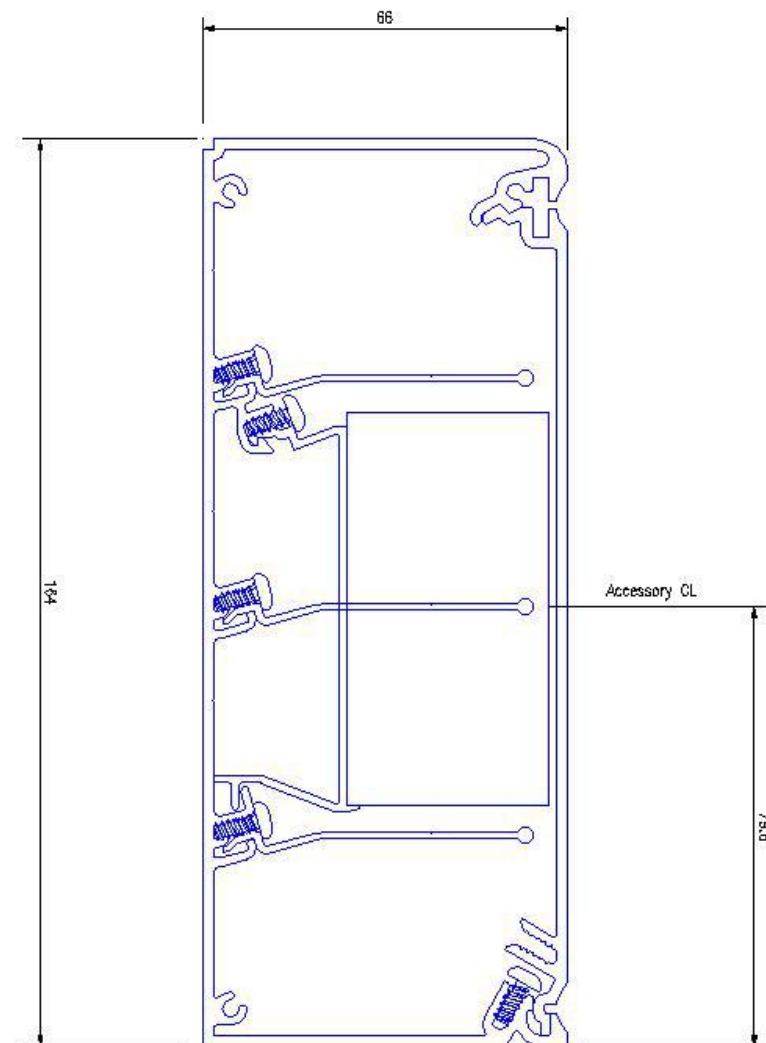
Our experienced Contracts Department specialises in the installation of our trunking systems, and all **Cableflow** installation technicians are trained to the highest standards, and equipped with the most up to date machinery to achieve the best possible result when our products and their skills are combined.

Further information about this service can be obtained by contacting our Sales Team who will be pleased to provide you with a costing on your specific application.

Product ref:
TT 6

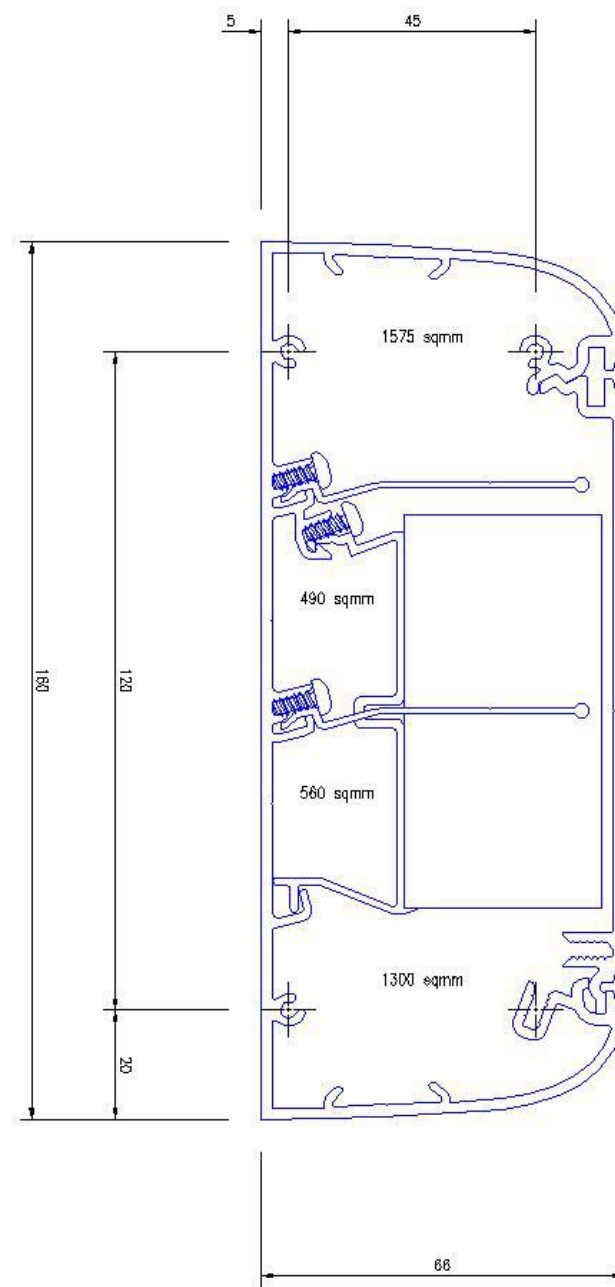


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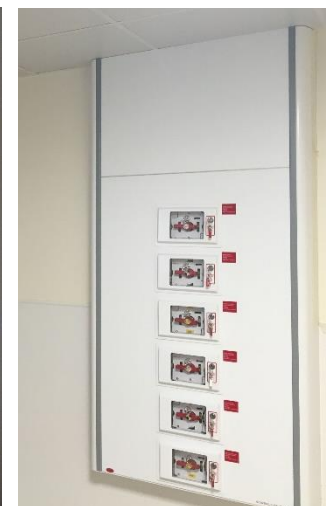
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Document Reference	Document Description	Document Reference	Document Description
BS 476-10: 2009	Fire tests on building materials and structures. Guide to the principles, selection, role and application of fire testing and their outputs	BS EN ISO 9170-2:2008	Terminal units for medical gas pipeline systems. Terminal units for anaesthetic gas scavenging systems
BS 1363-1:2016 + A1:2018	13 A plugs, socket-outlets, adaptors and connection units. Specification for rewireable and non-rewireable 13 A fused plugs	BS EN ISO 7599:2010	Anodizing of aluminium and its alloys. General specifications for anodic oxidation coatings on aluminium
BS 1363-2:2016 + A1: 2018	13 A plugs, socket-outlets, adaptors and connection units. Specification for 13 A switched and unswitched socket-outlets	BS EN ISO 11197:2019	Medical supply units
BS 1363-4:2016 + A1 2018	13 A plugs, socket-outlets, adaptors and connection units. Specification for 13 A fused connection units switched and unswitched	ISO 19054:2006 + A1:2016	Rail Systems for supporting medical equipment
BS 5266-1:2011	Emergency lighting. Code of practice for the emergency escape lighting of premises	HBN 00-03	Designing generic clinical and clinical support spaces
BS 5733:2010+A1:2014	General requirements for electrical accessories. Specification	HBN 00-04	Circulation and communication Spaces
BS 6701: 2016	Telecommunications equipment and telecommunications cabling. Specification for installation, operation and maintenance	HBN 00-09	Infection control in the built environment
BS 6972: 1988	Specification for general requirements for luminaire supporting couplers for domestic, light industrial and commercial use	HBN 04-01	Adult in-patient facilities: planning and design
BS 7671:2018 + A2 2022	Requirements for Electrical Installations 18th Edition IET Wiring Regulations (incorporating Section 710 (Special Locations Medical Locations)	HBN 04-02	Critical care units
BS 8300-1:2018	Design of buildings and their approaches to meet the needs of disabled people. Code of practice	HBN 4, Supplement 1	Isolation facilities for infectious patients in acute settings
BS EN 12206-1:2021	Paints and varnishes. Coating of aluminium and aluminium alloys for architectural purposes. Coatings prepared from coating powder	HBN 6	Facilities for Diagnostic imaging and interventional radiology:
BS EN 12464-1: 2021	Light and lighting. Lighting of work places. Indoor work places	HBN 07-01	Satellite Dialysis Unit
BS EN 13032-2: 2017	Light and lighting. Measurement and presentation of photometric data of lamps and luminaires. Presentation of data for indoor and outdoor work places	HBN 07-02	Main Renal Unit
BS EN 50083-2:2012	Cable networks for television signals, sound signals and interactive services. Electromagnetic compatibility for equipment	HBN 09-02	Maternity Care Facilities
BS EN 50085-1:2005+A1:2013	Cable trunking systems and cable ducting systems for electrical installations. General requirements	HBN 09-03	Neonatal Units
BS EN 50085-2-1:2006	Cable trunking systems and cable ducting systems for electrical installations. Cable trunking systems and cable ducting systems intended for mounting on walls and ceilings	HBN 57: 2003	Facilities for critical care
BS EN 60439-5: 2006	Low-voltage switchgear and control gear assemblies. Particular requirements for assemblies for power distribution in public networks	HTM 00	Building Engineering in the Health Sector
BS EN 60529:1992+A2:2013	Degrees of protection provided by enclosures (IP code)	HTM 02-01	Medical gas pipeline systems
BS EN 60598-1:2021	Luminaires. General requirements and tests	HTM 06-01	Electrical services: supply and distribution
BS EN 60598-2-22:2014 +A1: 2020	Luminaires. Particular requirements. Luminaires for emergency lighting	HTM 06-02	Electrical safety guidance for low voltage systems
BS EN 60601-1-6:2010+A1:2013 +A2:2020	Medical electrical equipment. General requirements for basic safety and essential performance. Collateral standard. Usability	HTM 08-03	Management of bedhead services in the health sector
BS EN 60601-1-2: 2015 + A1:2021	Medical electrical equipment. General requirements for basic safety and essential performance. Collateral standard. Electromagnetic compatibility. Requirements and tests	HTM 17	Health Building Engineering Installations
BS EN 60669-1:2018	Switches for household and similar fixed-electrical installations. General requirements	HTM 2014	Abatement of electrical interference
BS EN 61000-6-3:2021	Electromagnetic compatibility (EMC). Generic standards. Emission standard for residential, commercial and light-industrial environments (formally BS EN 50081-1)	HTM 2020	Electrical safety code for low voltage systems
BS EN 61000-6-4:2019	Electromagnetic compatibility (EMC). Generic standards. Emission standard for industrial environments	CIBSE LG 02: 2019	Lighting guide - Hospitals and health care buildings
BS EN 61000-6-1:2019	Electromagnetic compatibility (EMC). Generic standards. Immunity for residential, commercial and light-industrial environments (formally BS EN 50082-1)	CIBSE LG 3: 2001	Lighting guide - The visual environment for Display Screen Use
BS EN ISO 7396-1:2016 +A1:2019	Medical gas pipeline systems. Pipeline systems for compressed medical gases and vacuum	CIE	European Lighting Guide
BS EN ISO 7396-2: 2007	Medical gas pipeline systems. Anaesthetic gas scavenging disposal systems	NHS SPEC C49: 1997	Nurse Call Systems. Revision 3
BS EN ISO 9170-1:2017	Terminal units for medical gas pipeline systems. Terminal units for use with compressed medical gases and vacuum	EU MDR 2107/745	EU Medical Device Regulation
		UK MDR 2002	UK Medical Device Regulations (SI 2002 (no. 618, as amended)







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For full product data sheets go to our website or contact us directly

www.cableflow.com



Cableflow International Limited | Windsor House | Abbey Barn Road | High Wycombe | Buckinghamshire | HP11 1NN | United Kingdom

(tel) 00 44 (0)1494 52 88 11 | (email) sales@cableflow.com

Registered in England 2356618