



LINCRETE

ARCHITECTURAL CONCRETE – GFRC



Lindner

Building New Solutions

FROM ARNSTORF THROUGHOUT THE WORLD

The Lindner Group is a family-run construction company, manufacturer of construction products and provider of construction services. We use our manufacturing facilities to produce virtually all system products for interior fit-outs, the building shell and insulation technology: floors, ceilings, luminaires, doors, walls, facades. We continuously apply the highest standards of quality, environmental compatibility and innovation to further develop this range for global use by our customers.

LINDNER GFRC

Since the beginning of 2018, Lindner has been producing customised premium GFRC elements, manufactured by using technically advanced spray systems in its own production facility in Arnstorf, Lower Bavaria / Germany. What started out as a major order for the prestigious London subway project Crossrail has meanwhile been expanded to include the production of project-specific solutions for applications such as complex 3D shapes, facades, fireproof claddings in tunnels and architectural claddings for interiors. Whether in shape, colour or with regard to structural and acoustic requirements, the possible range of applications is almost unlimited.



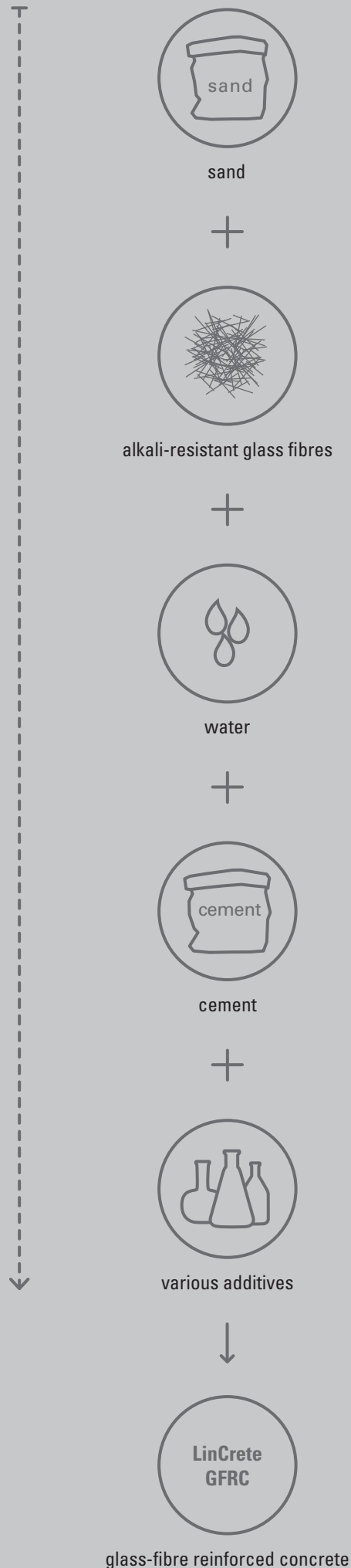
LINCRETE – GLASS-FIBRE REINFORCED CONCRETE BY LINDNER

The basic ingredients

LinCrete GFRC is a widely customisable material and product manufactured and optionally also installed by Lindner Group.

“Glass-fibre reinforced concrete or GFRC is a type of fibre-reinforced concrete containing fibrous material which increases its structural integrity. It contains short discrete fibres that are uniformly distributed and randomly oriented. The character of fibre-reinforced concrete changes with varying concretes, fibre materials, geometries, distribution, orientation, and densities. The product is also known as glassfibre reinforced concrete or GRC in British English.”

Source: Wikipedia



LINCRETE

Cladding element



large formats
3,000 x 3,500 mm*



density
2,000 - 2,600 kg/m³



no corrosion
durable, rigid and
dimensionally stable material



excellent fire protection
properties



optionally sound-absorbing
with perforation and acoustic
backing



variety of surface options
for creative leeway

* Please note that theoretically the sizes are not limited, however very large sizes might result in unwieldy and therefore also uneconomic elements.





LINCRETE LIGHT

Cladding element



large formats
3,000 x 3,500 mm*



density
800 - 2,000 kg/m³



no corrosion
durable, rigid and
dimensionally stable material



excellent fire protection
properties



optionally sound-absorbing
with perforation and acoustic
backing



variety of surface options
for creative leeway

* Please note that theoretically the sizes are not limited, however very large sizes might result in unwieldy and therefore also uneconomic elements.



LINCRETE – GLASS-FIBRE REINFORCED CONCRETE BY LINDNER

We live and breathe quality

Lindner manufactures premium GFRC products. As with all other Lindner Group products, we strive for the highest quality available on the market and develop maintenance-friendly and customer-oriented products fulfilling highly demanding international standards and project requirements.

As a matter of course, Lindner is also a member of GRCA - The International Glassfibre Reinforced Concrete Association.







Stacking of finished large-scale panels



Spray process for the GFRC panel front face layer

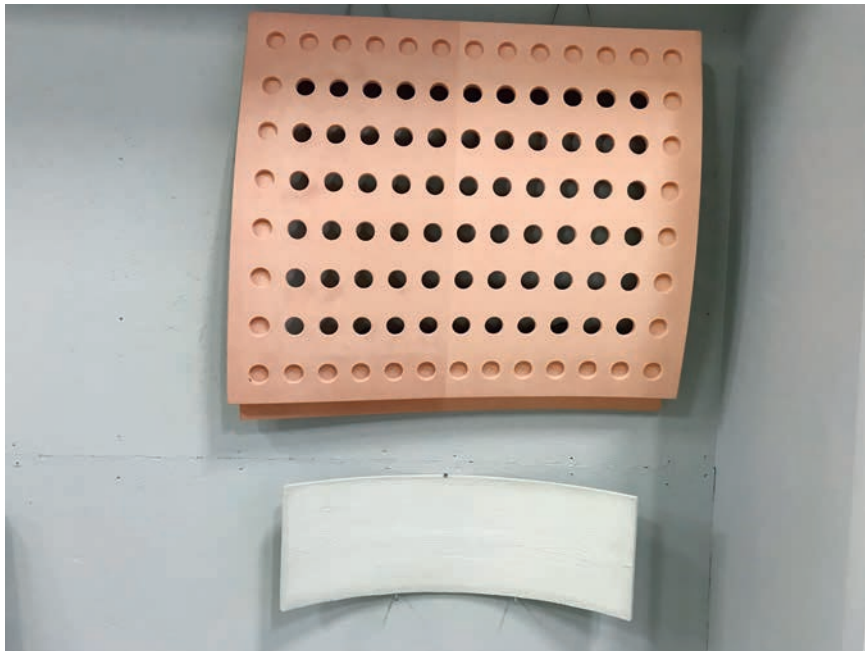


Integration of substructure components



ALL FROM ONE SOURCE Quality from our own production

As a manufacturer of complete systems, we ensure that our premium quality approach is not only related to the LinCrete elements itself, but also in particular in any interface details like in particular substructure components making the entire building product capable of responding to countless different requirements on site.



SURFACES

More than you can see

Surface treatment

- + Sandblasting
- + Acid washing
- + Grinding/polishing
- + Various patterns via customised moulds

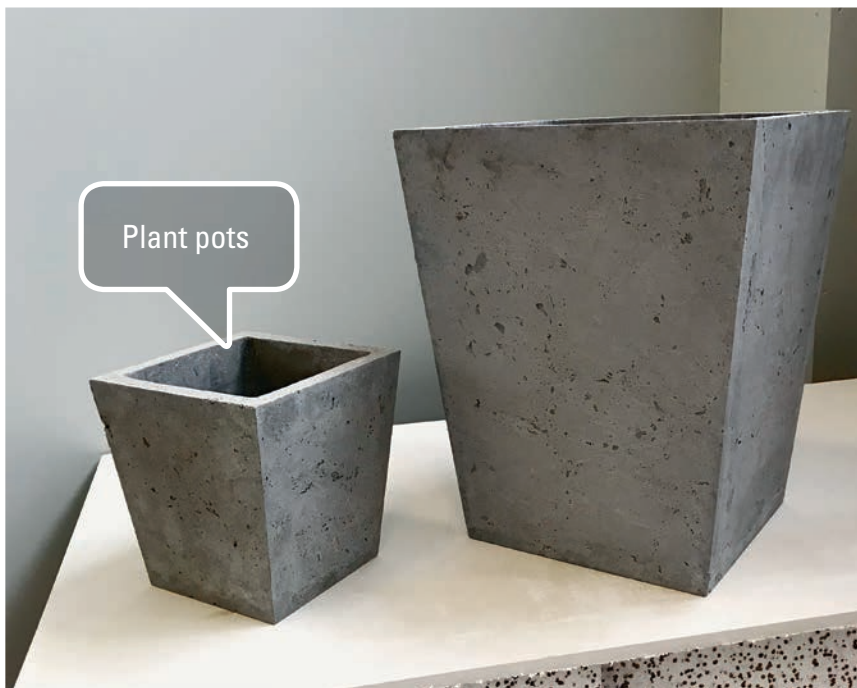
Surface finishing

- + Painting
- + Printing
- + Plaster
- + Various functional coatings, e.g. water-proof, anti-graffiti





Design tiles and cladding options



Plant pots



Design paving tiles



Design planks

LINCRETE

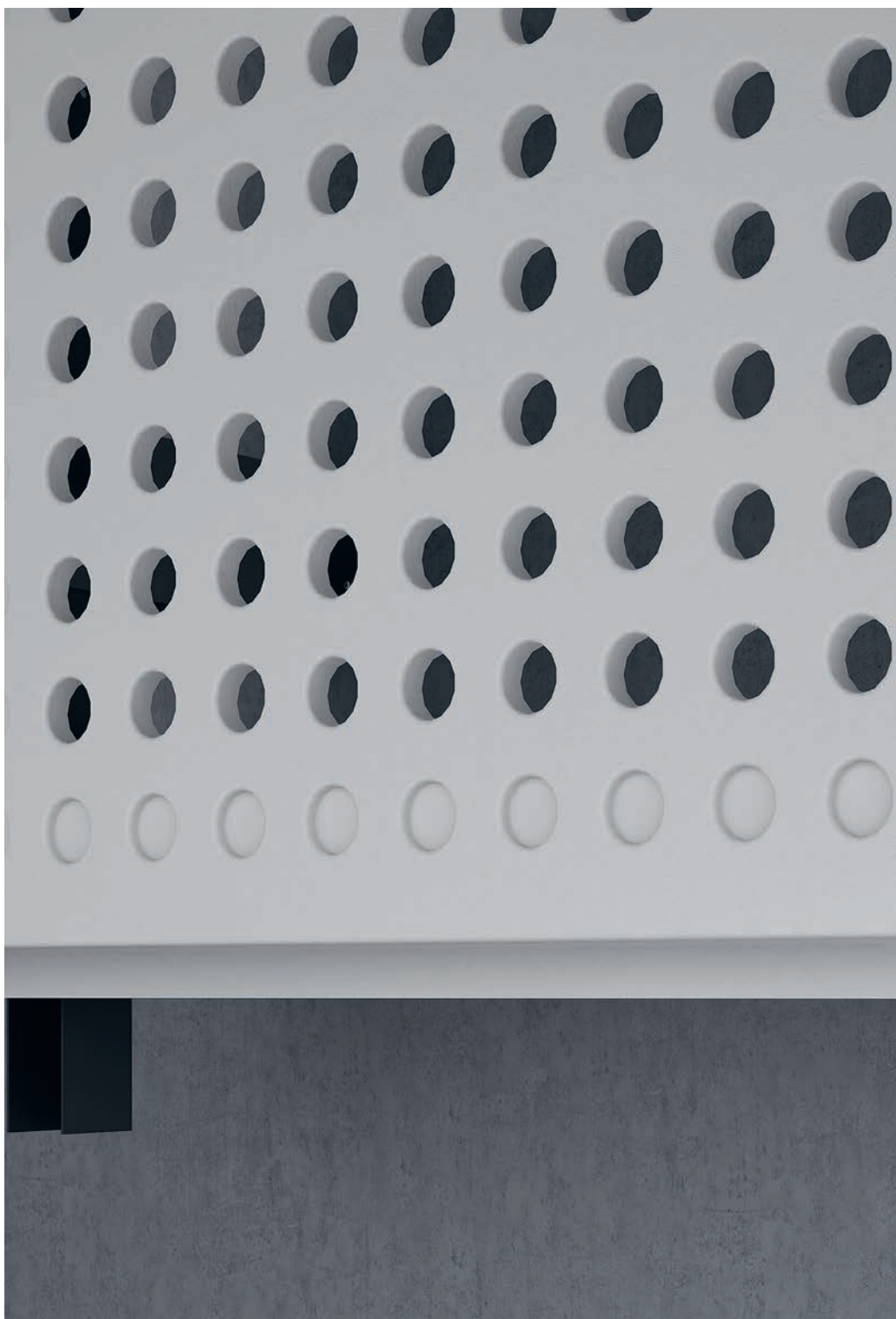
One product – many applications

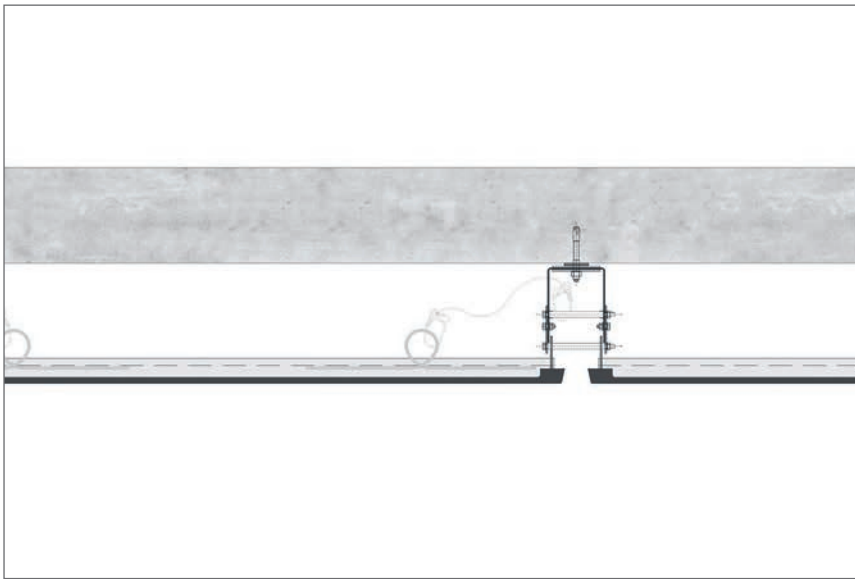
Discover the versatile product possibilities that GFRC mixtures can support you within your daily life – whether it is on commercial projects or for private use applications.

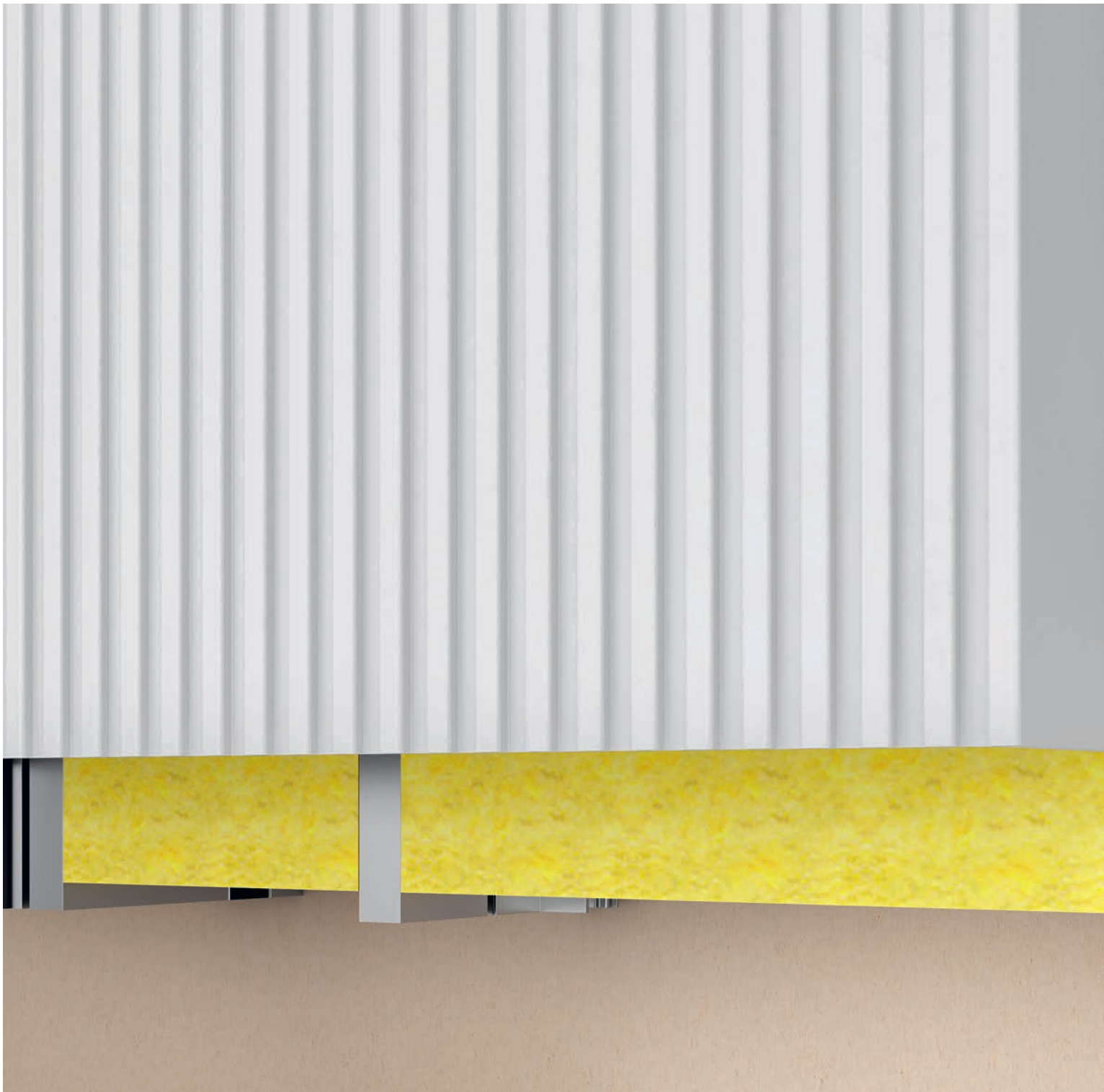
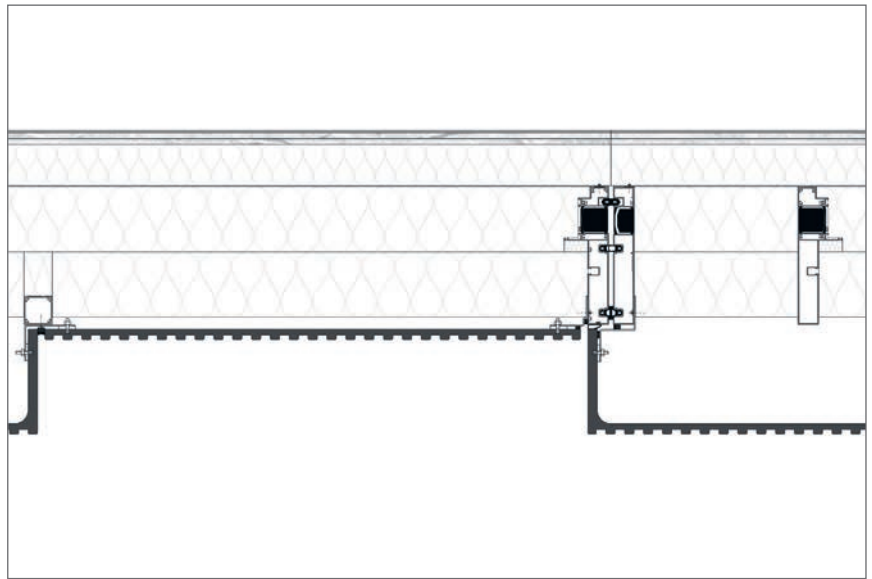
PIN CHANNEL SYSTEM

Lindner substructure solutions for all kinds of installation situations

The pin channel system is based on a special hook-on principle for the attachment of cladding elements to the substructure. The panels are self-locking by means of gravitation. Due to precise laser cutting processes, the substructure can be designed to fit nearly all shapes and purposes as well as being especially qualified for realising seamless transitions from vertical wall into completely horizontal ceiling areas.









UNDERCUT ANCHOR FASTENING

**Lindner substructure solutions for all
kinds of installation situations**

As another flexible way of fastening cladding panels that has its origins in the facade business, LinCrete elements can be screwed to suitably qualified substructure profiles by using undercut anchors that are fastened to the GFRC element. The LinCrete elements can then be screwed to the substructure profiles.

AN ALL INCLUSIVE PACKAGE

Maintenance and Service

Lindner provides complete systems including:

- + Fulfilling most demanding requirements of project-related MARS Strategies (Maintenance/Access/Replacement/Service)
- + Substructure systems specifically matched to the customer and operator's needs by using the tremendous experience as product developer and installer from countless successfully completed projects in various building sectors worldwide
- + Maintenance-friendly materials and easy-to-clean surfaces with a wide range of different options
- + Factory-integrated solutions (e.g. lighting, heating/cooling technologies and other fixtures)
- + Support during all stages of the project (from consultation on the specification until installation on site)
- + Supervising service on site for projects with Lindner product supply only









LINDNER SECURE – BOMB-BLAST-RESISTANT BUILDING PRODUCTS

Preventing fragmentation saves lives

Lindner Secure is an entire product range developed in response to the increasing demand for enhanced security environments. With an increasing risk of terrorist activities in today's society, where political unrest and religious tensions are playing out on an international stage, it is unfortunately necessary to assess any public structure that sees the gathering of large numbers of people – from airports and stadia to shopping centres, hospitals and government buildings – in the context of bomb-blast security. Lindner recognized the lack of product systems available in this field and collaborated with various experts to develop the pioneering Lindner Secure building product range.

What happens in the case of a bomb detonation? It is not only the explosion itself but also the highly underestimated hidden danger in the surrounding environment that imperils people. Released fragments of glass, metal or even concrete surfaces act like bullets when a bomb explodes. Moreover larger parts of claddings and ceilings might collapse and their single components might come down and hit people.

Lindner Secure products are elegant, unobtrusive and effective, integrating seamlessly into architectural schemes of all scales to ensure safety is quite literally 'designed in'.



LIFE-SAVERS IN PUBLIC BUILDINGS

Lindner Secure products

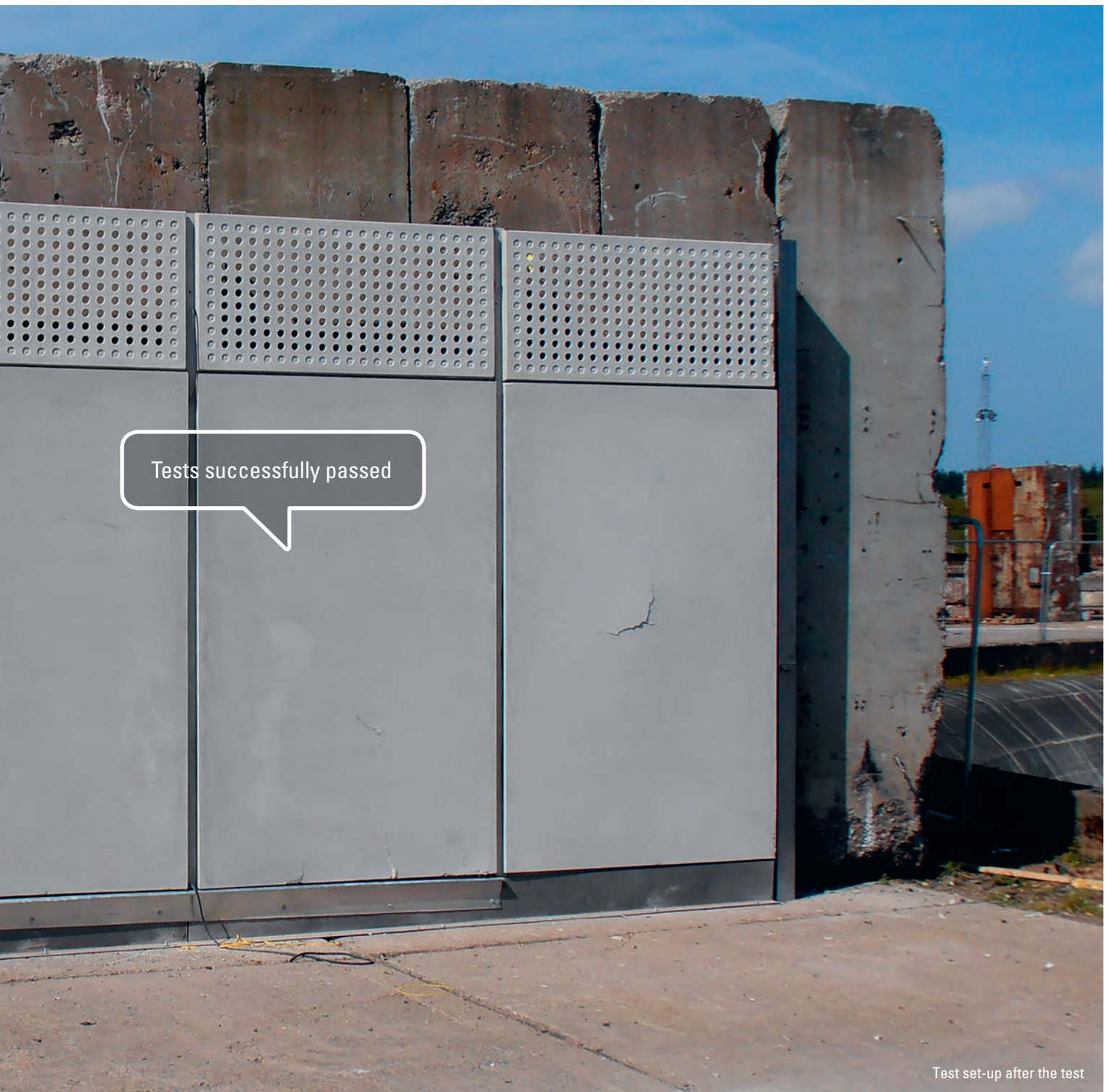
LinCrete claddings have proved in several successfully passed tests that they are capable of withstanding the typical loads of improvised explosive devices.

- + Blast pressure: average 150 kPa peak pressure
- + Minimum element thickness: 6 mm
- + Test standards and requirements: tested for PBIED (Person-Borne Improvised Explosive Device) attacks according to individual leading UK infrastructure requirements

Customer benefits at a glance

- + Preventing fragmentation and the release of particles endangering life
- + Meeting security best practice without detracting from aesthetic or functional performance
- + Seamless integration into architectural schemes without inspiring public fear or paranoia
- + Tested to the highest quality standards
- + Widely customisable to suit the individual project's requirements





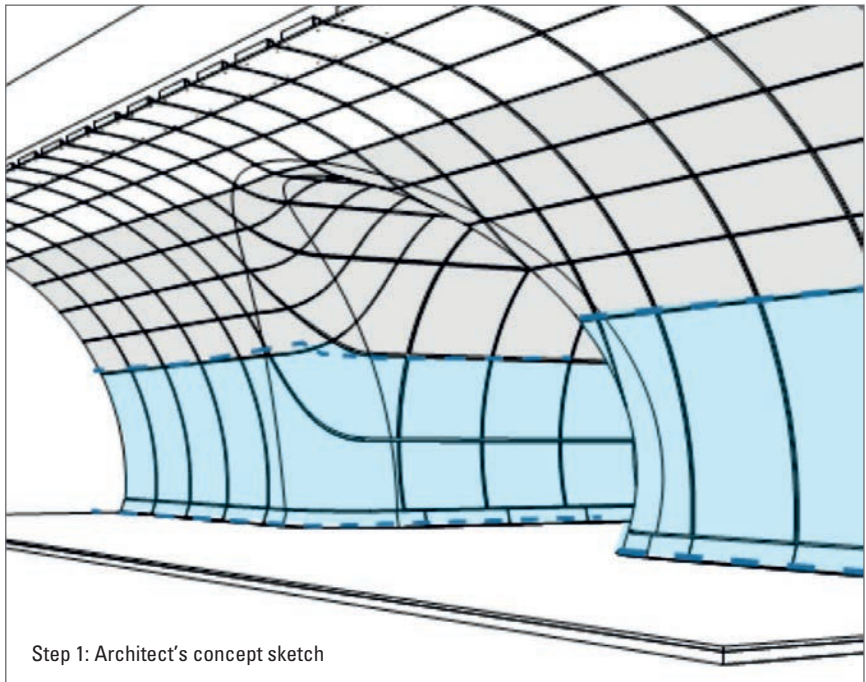




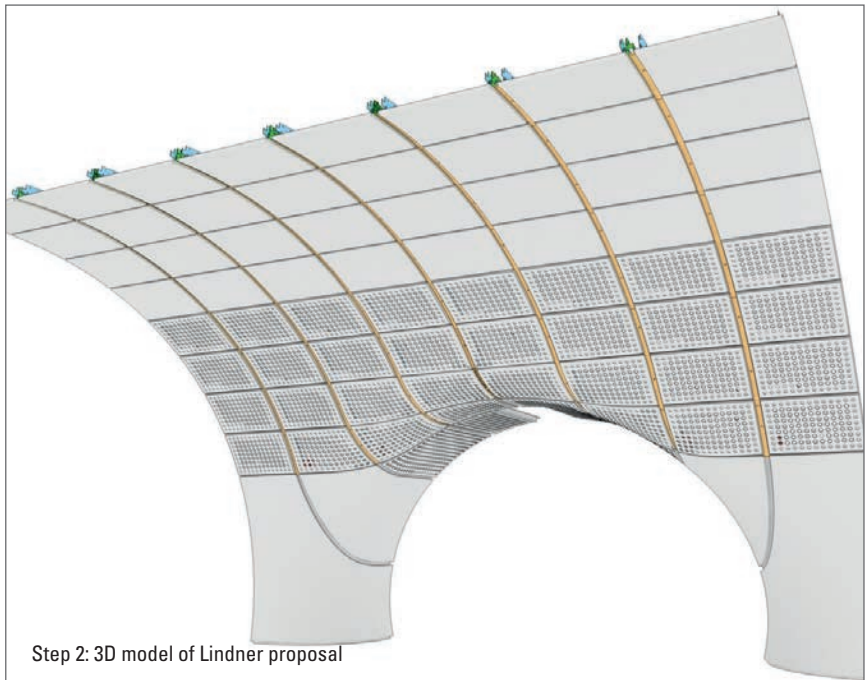
LINCRETE AT CROSSRAIL LONDON'S BOND STREET STATION

The requirements of a "Champions League" project as a starter for Lindner's own GFRC product range from A-Z

- + Acoustic regulation
- + Bomb blast resistance
- + Durability
- + Easy-to-clean surface (anti-graffiti)
- + Impact loads
- + Non-combustibility
- + Thermal regulation
- + Train piston effect
- + Tunnel deflection
- + Wind loads
- + Zero deflection with large elements



Step 1: Architect's concept sketch



Step 2: 3D model of Lindner proposal

FROM CONCEPT TO REALITY

Providing support in all project stages

We welcome the challenge of implementing your vision by customising our LinCrete products. Our experts find the right solution for your project and advise you on function and design details. We gladly support you – from planning to production and installation. Our high in-house production depth enables us to realise your requests with customised LinCrete products – made to fit your construction project. You will receive a perfectly adapted product for your project according to our principle: everything from one source.



Step 3: Mock-up at Lindner headquarters premises



Final step: Installation of LinCrete cladding system on site



MOSCOW METRO

Wayfinding elements

Project: Wayfinding System for Moscow Metropolitan

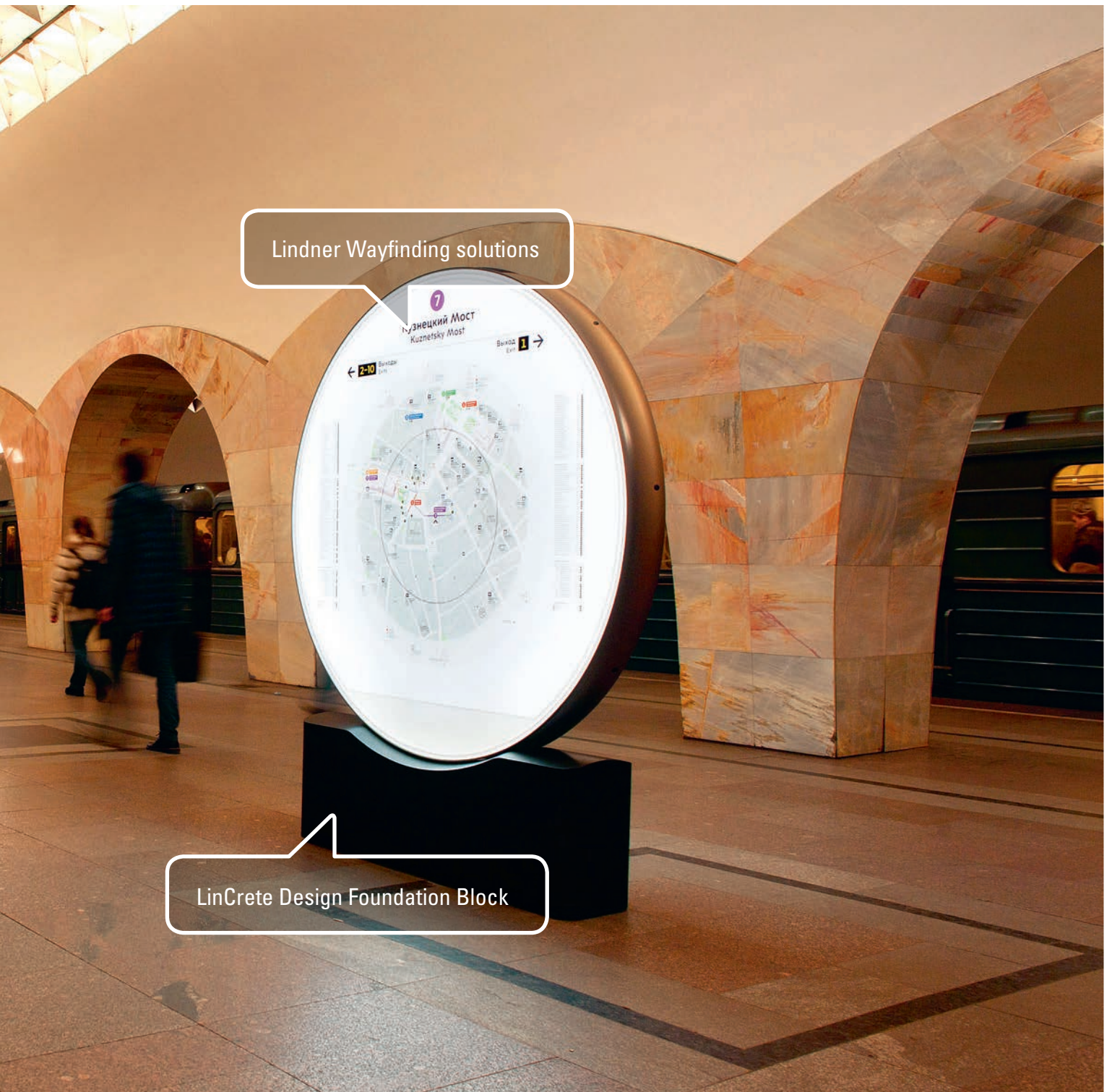
Builder: Moscow Metropolitan

Client: OOO Unilog

Architect: Billings Jackson Design, London, United Kingdom

Completion: Q4 2014


Description: Different types of wayfinding elements including LinCrete support stand, illuminated design signage and wayfinding element with backlit maps. The glass panes with wayfinding maps were designed for maintenance-friendly access to easy modify the maps for changes within the metro or surrounding city environment



Lindner Wayfinding solutions

LinCrete Design Foundation Block





Lindner Streetfurniture Elements

CITY OF MOSCOW

Base support for public elements

Project: Bus Stop Street Furniture for City of Moscow

Builder: City of Moscow

Client: OOO Primesite

Architect: Billings Jackson Design, London, United Kingdom

Completion: Q3 + Q4 2015

Description: Complete multi-functional bus shelter structure including surrounding public elements like ticket counter, bus station information bar, waste bin, reflector posts. The works included a fully encompassing design of integrated USB-sockets, interactive screens, design LinCrete supporting stands for various structures, illumination etc.

LINDNER LETTERING

**Made from the architectural
concrete LinCrete**

During the refurbishment of the Lindner Group headquarters' main entrance forecourt area, another inspiring way of GFRG application has been realised using LinCrete. All necessary steps from planning and design, producing the moulds, spray and formwork processes for the shape of the logo and individual letters until the final assembly and installation have been carried out by our various in-house production plants and qualified staff.

The finished product can be admired and sampled in front of the main entrance of our headquarters and instinctively shows visitors the location of Lindner Group headquarters' main entrance.

Thanks to the durability of LinCrete and Lindner fastening solutions, the letters can also be used to sit on them for a small rest or for visitors to make souvenir photos of their stay here.





Title image: Crossrail, London, United Kingdom, Photo: © Crossrail Ltd

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