SAINT-GOBAIN

OFF-SITE SOLUTIONS

INTRASTACK STEEL FRAME

› CREATING CERTAINTY AT THE CORE OF ANY STEEL FRAME PROJECT.

INTRA STACK

AGENDA

- Introducing Intrastack TM
- Meet the team
- System overview
- Working with you
- Our step-by-step process
- Typical package scope
- Key benefits of LGSF technologies
- Testing & certification
- Our projects
- Contact us

INTRODUCING INTRASTACK

Light gauge steel construction can deliver fast, adaptable and cost-effective multi-storey, multi-occupancy and commercial buildings.

The Intrastack TM offer is specifically designed to further enhance these benefits through the application of off-site manufacturing principles.

By implementing Intrastack, the need for teams to deliver on-site construction is dramatically reduced, alongside key improvements in build quality, thermal & acoustic performance, accelerated build-programme, and reductions in site H&S risk.

The Intrastack solution includes pre-assembled structural components for walls, floors and roofs, specifically designed to minimise waste in materials, process, and on-site labour.

Through significant testing, we have the ability to provide multiple system build-ups to meet your required fire, thermal, and acoustic requirements.

We work closely with you and your supply chain at all stages of the project, ensuring a smooth delivery and installation programme throughout.

MEET THE TEAM

Andy Higson
Business Director

Matt Grant
Head of Technical & Sales Support

Danny Johnson
National Sales Manager

Jake Winwood
Business Development Manager

Cherise Hardy-Edwards
Marketing Manager

Jason Milligan
Technical Project Manager

Simon Pritchard
Estimator

Bryan Cummings
Production Supervisor

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SYSTEM OVERVIEW

Intrastack provide pre-panellised light-gauge steel frame (LGSF) systems, specifically designed to deliver the primary load-bearing structure for multi-occupancy residential and commercial projects.

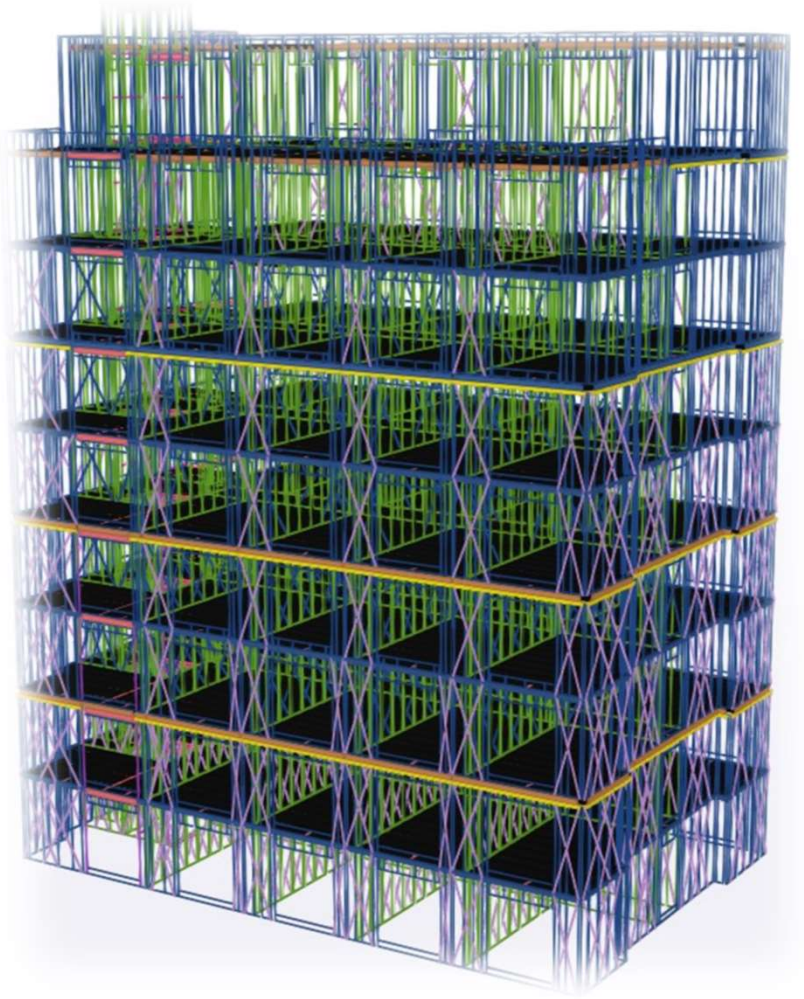
The Intrastack system delivers fully load-bearing structures up to 12 storeys in height, and is specifically designed to optimise the use of LGSF structural technology for each project.

Intrastack wall panels, floor cassettes, and roof cassettes are pre-assembled, then kitted at our 15 acre manufacturing facility in the North-West of England. These are then delivered to site, in sequence to meet your construction-programme.

We can also provide a composite concrete deck, should you prefer, these would be site fixed and then poured. If your project requires a pitched, trussed roof – then we can also provide this as part of the supply & installation package.

As part of the Intrastack package, we also offer all site hot-rolled steel (HRS), balconies, lift-shafts, stair-cases, rebar – along with the option of a scaffold-less system.

We can also provide in-fill and pre-assembled-façade systems should your project not lend itself to a full LGSF load-bearing structure.



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WORKING WITH YOU AND YOUR SUPPLY CHAIN

We provide a flexible, adaptable, partnership approach to suit your supply-chain, and your project-specific requirements.

Our philosophy is to work with you, and your wider team as early as possible, and throughout your project, ensuring that the Intrastack process is smooth, efficient, and customer-centric.

We work across the majority of multi-occupancy residential & commercial projects, from assisted living to student accommodation, from hotels to apartment living.

Our load-bearing structures can be used up to and including 12 storeys, and lend themselves well to multiple building typologies – our system is at it's most efficient on highly-repeated layouts.

Intrastack can also deliver low-rise housing solutions to provide cost-effective, efficient, high-performing homes into the affordable sector, and where the key drivers are speed-of-construction, waste reduction, quality, and performance.

Care Homes & Assisted Living

Student Accommodation

Hotels

Apartments

Structures up to 12 storeys

Affordable Housing

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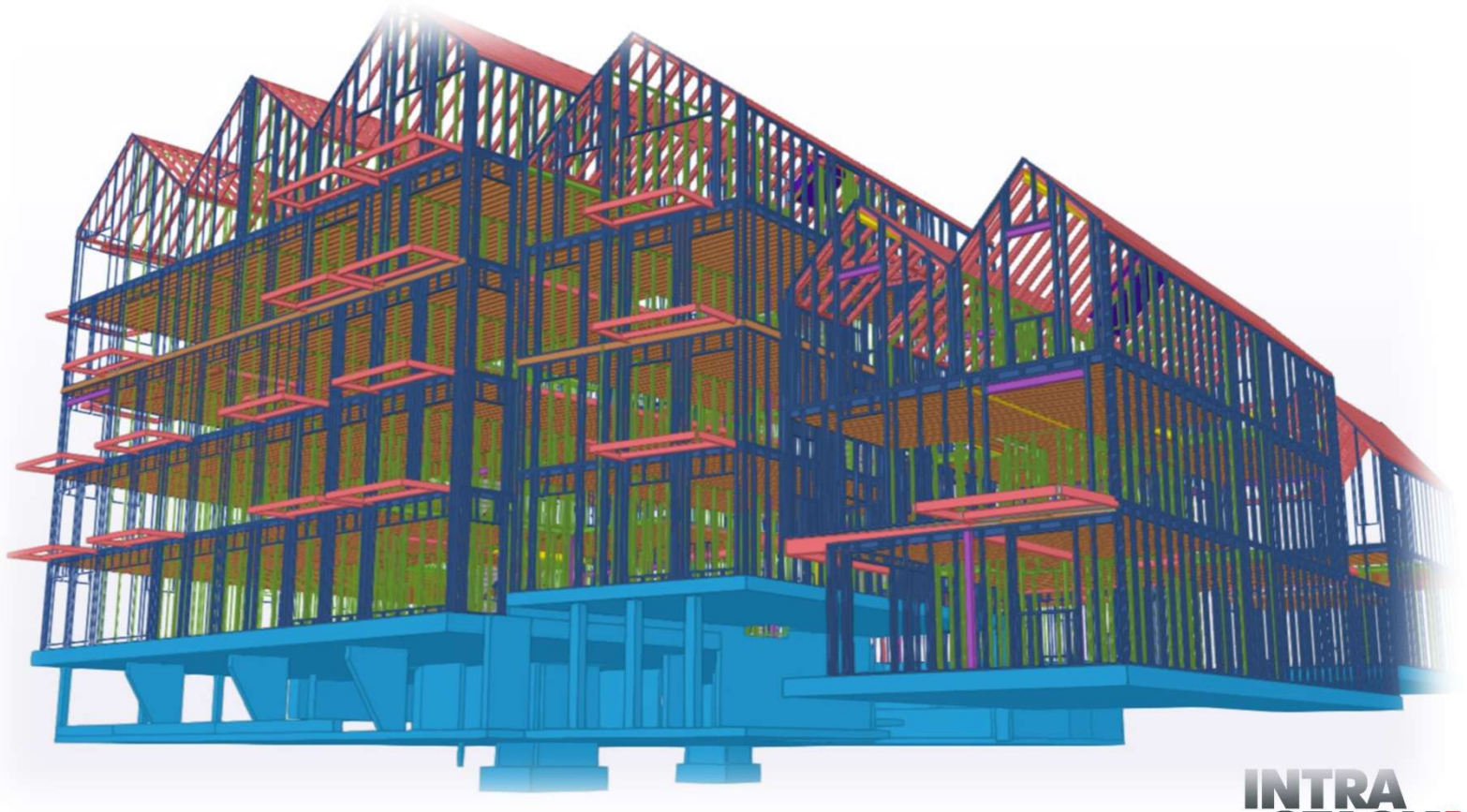
THE INTRASTACK PROCESS

“Creating certainty at the core of any steel frame project.”

DESIGN

Working with you from the earliest stages of your construction project, we will provide everything from initial, outline plans & mark-ups, through to a fully digitised 3D model for the full structure at frozen design stage. This would then be fed in to our manufacturing process.



THE INTRASTACK PROCESS

“Creating certainty at the core of any steel frame project.”

MANUFACTURE

Utilising our 15 acre Chorley manufacturing & assembly facility, we have significant capacity to accommodate all project types and national demand. Intrastack panels are assembled in advance to meet the pre-agreed installation sequence for your project ready for staged call-off.

THE INTRASTACK PROCESS

“Creating certainty at the core of any steel frame project.”

DISTRIBUTE

We draw upon our national distribution capability from across our 10 UK facilities, along with the wider Saint-Gobain UK infrastructure, providing specialist vehicles, lifting equipment and bespoke logistical solutions to meet your specific project requirements.

THE INTRASTACK PROCESS

“Creating certainty at the core of any steel frame project.”

INSTALL

We utilise our network of system installers to deliver your load-bearing structure on a supply & installation basis. During the design & quotation stage, we would provide system installer options to you, who would then work as part of the Intrastack project team with you throughout.

TYPICAL PACKAGE SCOPE

The standard Intrastack package typically includes the following:

Design & Detailing to include:
- A full set of Design Calculations and GA drawings
- Intrastack Wall, Floor, and Roof Panels

Supply of Intrastack Frame structure to include:
- Pre-panelised wall cassettes and any hot rolled steel beams and columns required to complete the frame.
- Supply of Timber roof trusses
- External walls to be pre-clad with 12mm Glasroc X sheathing board
- Supply of 160mm deep composite decking Supply of decking sheet.
- Supply of rebar to troughs as necessary
- Supply of progressive collapse bars as per design
- Supply of edge trim
- Supply and place 160mm C35 TopFlow Concrete

Delivery
- Clear access and unloading bay to be maintained at all time to allow materials to be offloaded.
- All deliveries will be on standard articulated trailer units and during normal site hours.

Installation
- Via the Intrastack specialist system installer network

The Intrastack installer will require the Main Contractor to control the level of the support slab to a tight tolerance of +0, -10mm. Any deviation from this tolerance will require packing and grouting. If this cannot be achieved then an additional ring-beam detail may be required.

For clarity notable exclusions include but are not limited to the following:

- Any non-load bearing partitions not highlighted on the enclosed plans.
- Crane supply
- Insulation to external or internal walls
- Fire protection, dry lining and any air tight seals or membranes
- Floor finishes
- Balcony floor joists, finishes and balustrades
- Staircases, Handrails or balustrades
- Perimeter edge protection and scaffolding
- Lift/void protection
- Ground Floor Slabs and Foundations
- Vertical support for external cladding and/masonry support (all vertical support to be taken at ground /transfer level unless otherwise stated.)
- Placement of bathroom pods / plaster board packs – note no inclusion for placing of pods / plasterboard is included within the programme, Intrastack recommend allowing 20mins per pod /pack
- Panels are provided to take the loads from windows, but no brackets or support plates are provided outside the 100mm structural Intrastack Frame zone.

Subject to your specific project requirements, and following further discussion, the typical standard exclusions can be reviewed, and a bespoke Intrastack package quotation can be arranged…

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KEY BENEFITS OF LGSF TECHNOLOGIES

Design Flexibility
Intrastack, pre-panellised structures enables a high level of design flexibility. Our LGSF construction kit-of-parts combined with our forward-thinking approach to structural design provides maximum flexibility to meet almost all building typologies and floorplans.

Safety
When using pre panelised LGSF structures the HSE states that site safety is improved by a factor of 5 through the reduction in site labour, reduced working-at-height, less waste on site (trip hazards).

Quality & Accuracy Of Build
The accuracy and precision of LGSF technology (up to 1mm per structural storey height), allows for a more exacting interface with finishing systems, leading to higher levels of quality & performance.

Increased Productivity
An Intrastack framed building can be constructed up to 50% faster than a traditional structure, leading to reduced site preliminaries, reduced plant costs, and an earlier R.O.I.

Life span
The NHBC and other housing warrantee providers accept LGSF structures as having a life span in excess of 60 years, however the predicted life span of a steel framed building with warm wall construction is over 250 years.

Dimensional Stability
LGSF construction is a dry process eliminating shrinkage after construction, steel sections do not suffer from creep, shrinkage or warping under load.

Reduced Carbon Footprint
Considerable reduction in production of onsite waste material, and up to 20% reduction in embodied carbon in building fabric.

Construction Predictability
Due to the nature of offsite construction, LGSF is less reliant on site and weather conditions, along with the usual 'wet-trade' labour resources.

Speed Of Construction
Intrastack, pre-panellised structures can improve the overall construction programme by 50%, providing a much quicker ROI for your project.

Fire Protection & Performance
Unlike timber frame, during construction fire protection of a steel frame is not required. Intrastack LGSF structures can offer up to 120 min fire performance based on our tested configurations.

Weight Reduction
A lightweight steel frame structure can be up to 70% lighter than a traditional structure, resulting in lighter and cheaper foundations and podium structures.

System Robustness
Intrastack structures offer the option of a composite concrete floor offering a quality under foot feel to all levels of the building. We can also provide acoustic and durability upgrade options to all structural walls beyond regulatory performance.

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TESTING & CONFIGURATIONS

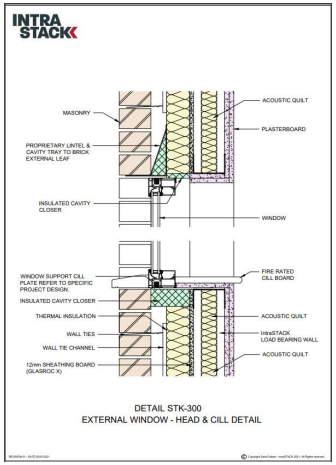
Through extensive system testing, we have a full suite of test data covering multiple system configurations from 60 – 120 mins fire.

All tested configurations from inside-to-out, and outside-to-in comprise of 100% non-combustible Saint-Gobain UK products.

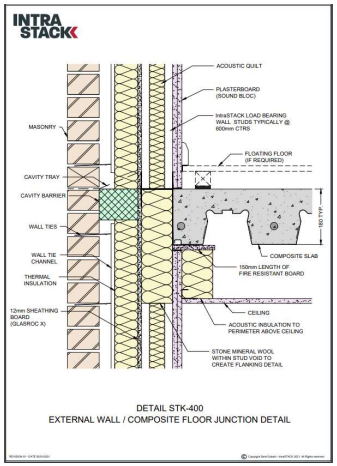
Full details of the Intrastack tested wall configurations can be found at:

https://www.saint-gobain.co.uk/intrastack

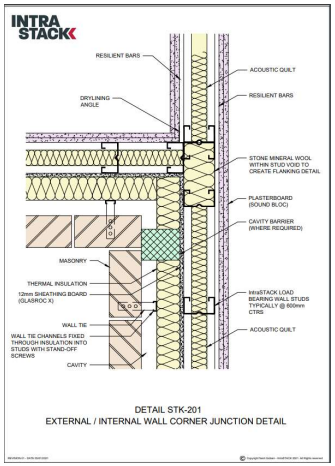
The Intrastack system example details pack is available upon request:



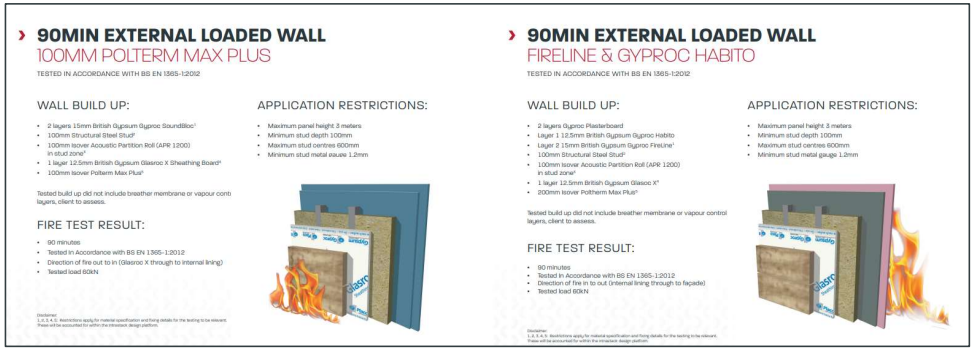
DETAIL STK-300
EXTERNAL WINDOW - HEAD & CILL DETAIL

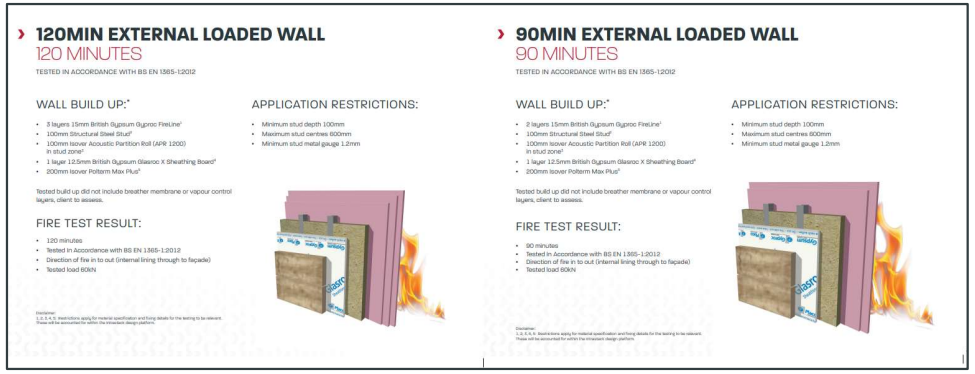


DETAIL STK-400
EXTERNAL WALL / COMPOSITE FLOOR JUNCTION DETAIL



DETAIL STK-201
EXTERNAL / INTERNAL WALL CORNER JUNCTION DETAIL





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SCI CERTIFICATION

The Steel Construction Institute has assessed the structural aspects of this system for Stage 1 - System Certification and confirms that it is suitable for use in the construction of dwellings in accordance with NHBC Standards Chapter 6.10 “Light steel framing”.

To confirm validity please visit the SCI certification and assessment website www.sci-assessed.com or contact the SCI on Tel: 01344 636525

For contact details of the technical department of Saint-Gobain Off-Site Solutions please refer to the Intrastack system manual

SCI/NHBC Certification

Saint-Gobain Offsite

IntraSTACK Light Steel Frame System

SCI / NHBC Stage 1 System Certification

The Steel Construction Institute has assessed the structural aspects of the Orca LGS System for Stage 1 – System Certification and confirms that it is suitable for use in the construction of dwellings in accordance with NHBC Standards Chapter 6.10 “Light steel framing”.

The system has been assessed for residential buildings up to 15 storeys high. As its basic components the system uses cold rolled galvanized C-sections for wall studs, floor joists and roof joists.

To confirm validity, please visit the SCI Certification and Assessment website at www.sci-assessed.com.

SCI NHBC
STAGE 1 SYSTEM CERTIFICATION

NHBC
Raising Standards. Protecting Homeowners

Product ID: 20240920
End Date: 2nd September 2024

Dr Graham Couchman, Chief Executive
The Steel Construction Institute

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EXAMPLE PROJECTS

Abbey Wall works – Wimbledon

5 to 6 storey apartment development

Multiple linked-blocks

Complex wedge-shaped structure

Multi-faceted roof configuration

15-week installation programme

RJB Interiors installing

EXAMPLE PROJECTS

Images – Worcester

8 storey student living

Tight inner-city site

Close to inner ring-road

Onto 2-storey RC podium

10-week installation programme

Intastruct installing

EXAMPLE PROJECTS

The Mall – Ealing

10 storey inner-city living

Directly next-to TFL Ealing Broadway

Access via neighbouring properties

Very little site landing capability

11-week installation programme

SDP solutions installing

EXAMPLE PROJECTS

The Heights – Greenwich

2 blocks x 5 storey apartments

Next to neighbouring properties

Limited local access routes

Increased thermal performance reqs

12-week installation programme

SDP solutions installing

EXAMPLE PROJECTS

Pressworks – Birmingham

3 blocks x 4 to 5 storey apartments

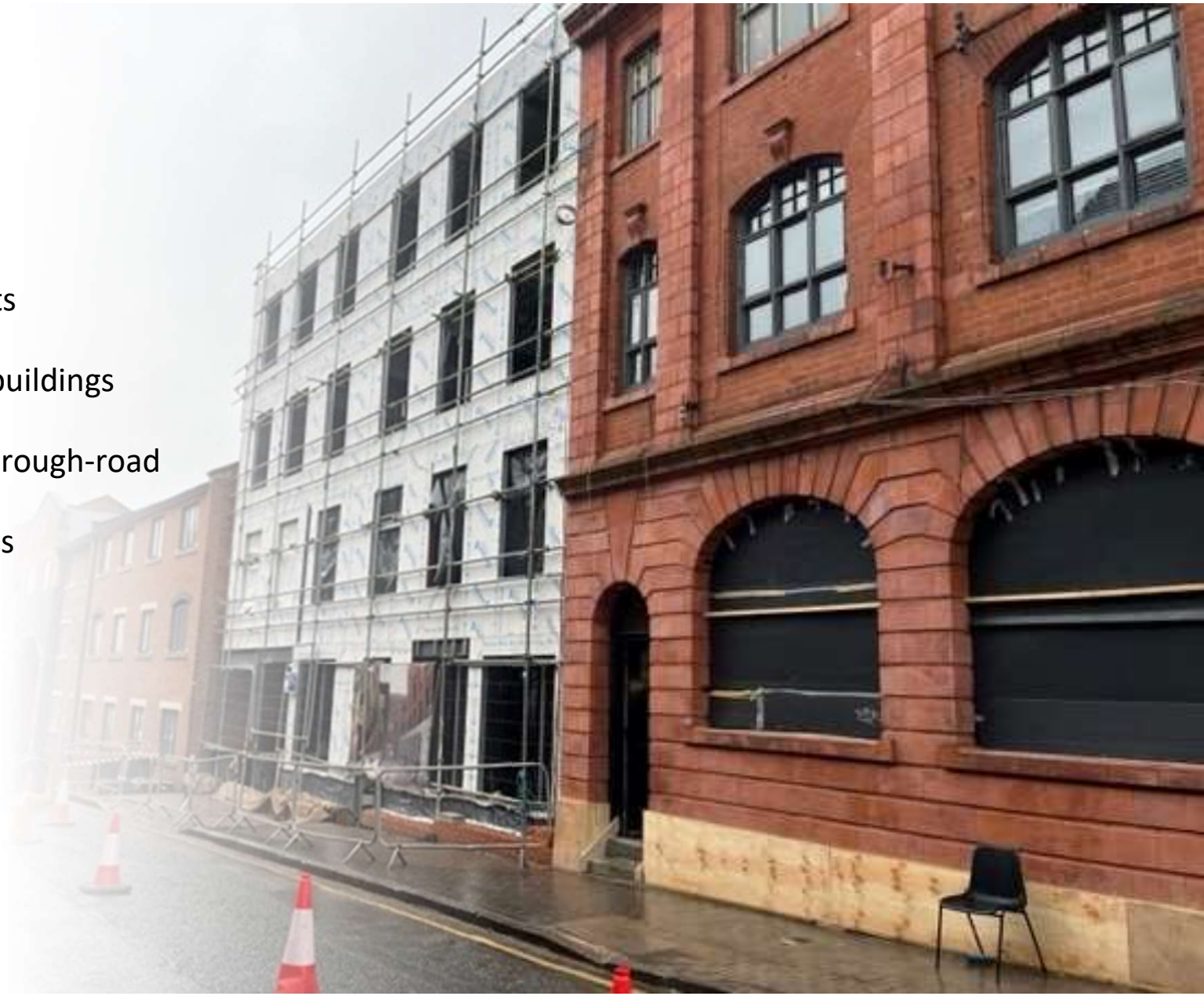
Wrapping around existing, listed buildings

Directly onto public footpath & through-road

Complex horseshoe configurations

16-week installation programme

BR Hodgson installing



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