INTRASTACK & COMMERCIAL SECTOR

OVERVIEW SLIDE DECK

SAINT-GOBAIN

AGENDA

- Saint-Gobain Global
- Saint-Gobain UK & Ireland
- Saint-Gobain Off-Site Solutions
- Introducing Intrastack
- Meet the team
- System overview
- Working with you
- Our end-to-end process
- Key benefits
- Testing & certification
- Intrastack Low-Rise Housing (ILRH)
- Infill & GypLyner Xternal
- Our projects

A STRONG GLOBAL GROUP

More than

160,000

employees and over
100 nationalities represented

Around

1,000 manufacturing facilities worldwide, operating in **79** countries

About

4,000

sales outlets

One of the top 100 **most innovative** groups in the world

Commitment:
Achieve net zero carbon emissions by 2050

European or World leadership positions in most of our businesses

FOUNDED

360 YEARS AGO

2023 TURNOVER

€47.9BN

€3.2BN
Operating income

Our Organisation

4 Consolidated Regions

Southern Europe, Middle East, Africa

Northern Europe

Asia-Pacific

and one global entity

High Performance Solutions

SAINT-GOBAIN

OUR BUSINESS

19 Businesses **5,600** Employees

£1,500m
Sales

Capital expenditure
£56m

Manufacturing & distribution locations
40

SOLUTIONS FOR COMMERCIAL, DOMESTIC, RMI & CONSTRUCTION DECARBONISATION

SAINT-GOBAIN Interior Solutions

UK
- British Gypsum
- Isover

IRELAND
- Gyproc

SAINT-GOBAIN Exterior Solutions

- Saint-Gobain Glass
- Glassolutions
- Weber

SAINT-GOBAIN Off-Site Solutions

- Pasquill
- Roofspace Solutions
- Scotframe
- Intrastack

RETAIL / DIY Solutions

- Okarno

High Performance Solutions & Construction Specialities

- Formula
- PAM
- Ecophon
- GCP
- Chryso
- Adfors
- Abrasives

A PORTFOLIO OF SOLUTIONS TO SUPPORT GROWTH

SAINT-GOBAIN

INTERIOR SOLUTIONS

The manufacture of high-performance plasterboard, and gypsum products; thermal insulation; Glasswool and PIR.

3 brands

2,050 people

9 sites

British Gypsum SAINT-GOBAIN

isover SAINT-GOBAIN

gyproc SAINT-GOBAIN

SAINT-GOBAIN

EXTERIOR SOLUTIONS

Insulation, render, mortars, acoustic solutions.

3 brands

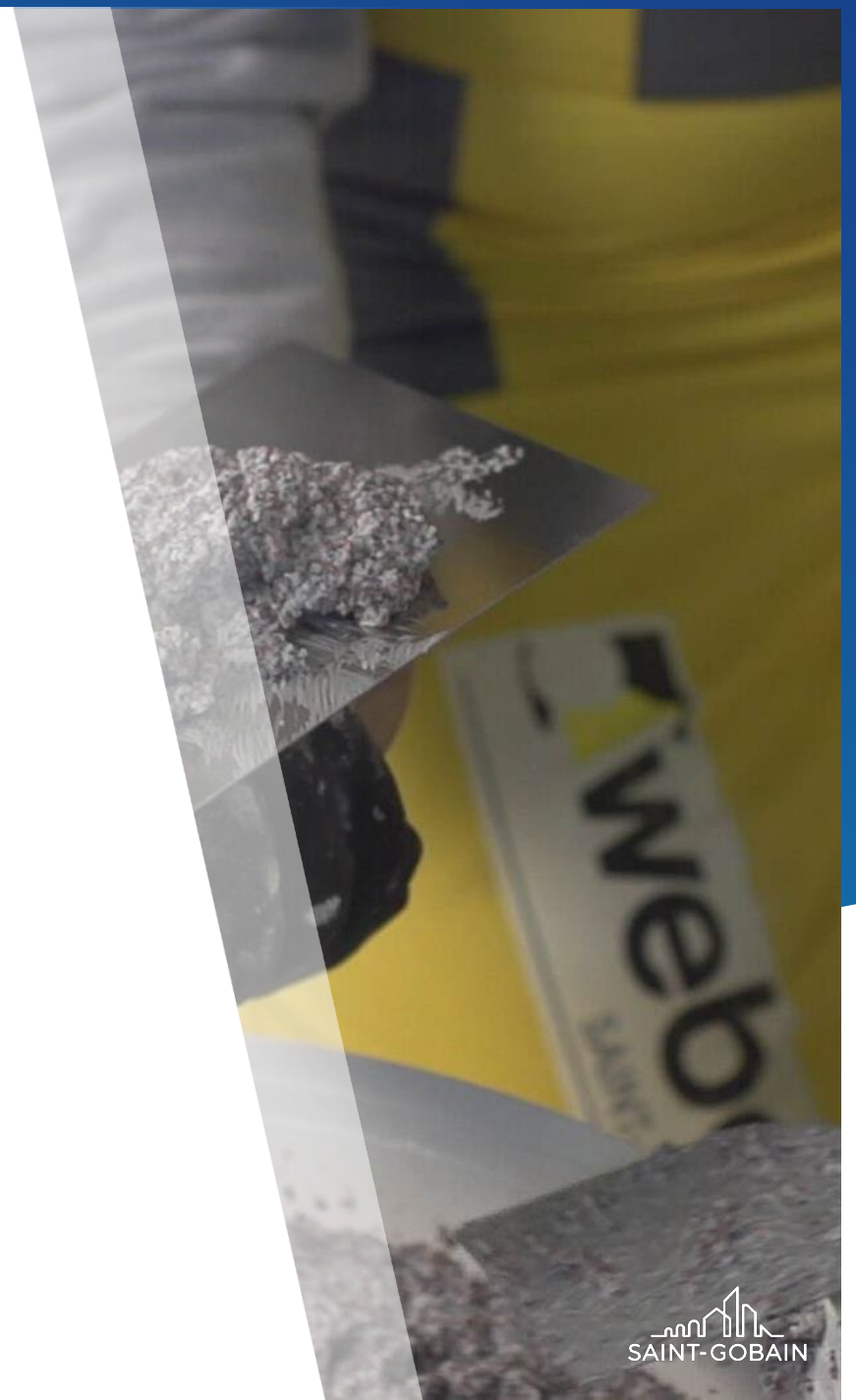
850 people

10 sites

weber SAINT-GOBAIN

glassolutions SAINT-GOBAIN

SAINT-GOBAIN



OFF-SITE SOLUTIONS

Roofing and flooring solutions, whole-house timber kits, steel frame buildings, closed and open panel systems.

4 brands

841 people

10 manufacturing sites
10 design offices

PASQUILL SAINT-GOBAIN

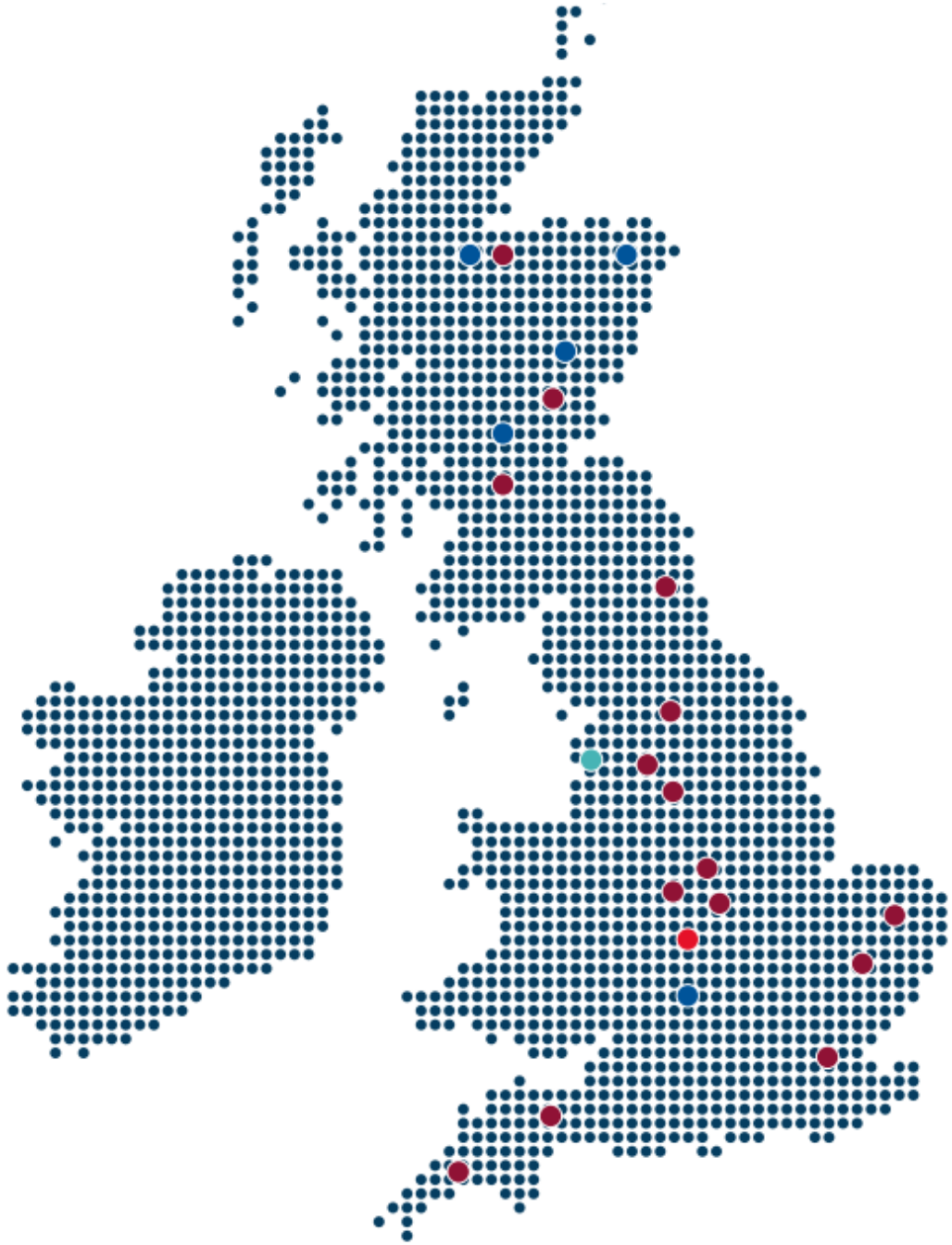
Roofspace Solutions

Scotframe

INTRA STACK

WHERE WE OPERATE

SAINT-GOBAIN OFF-SITE SOLUTIONS LOCATIONS



INTRASTACK
www.intrastack.co.uk
One design centre and manufacturing site

PASQUILL
www.pasquill.co.uk
Fifteen sites offering a combination of design and/or manufacturing capabilities

ROOFSPACE SOLUTIONS
www.roofspacesolutions.co.uk
One design centre and manufacturing site

SCOTFRAME
www.scotframe.co.uk
Five sites, two with manufacturing capabilities

SAINT-GOBAIN

INTRODUCING INTRASTACK

Intrastack LGSF structures are specifically designed to deliver large-scale multi-occupancy residential and commercial projects.

- Providing fully tested & warranted solutions
- Quality manufacture of load-bearing structures
- Delivering accelerated construction programmes
- Reducing site labour requirements
- Reducing on-site and manufacturing waste
- Improving site H&S
- Enabling the progression of difficult-to-develop sites

MEET THE COMMERCIAL SECTOR TEAM

Andy Higson
Intrastack Business Director & Commercial Sector Director

Matt Grant
Head of Commercial Sector Solutions & Services

Danny Johnson
Head of Commercial Sales – North, Midlands and South-West of England

Cameron McDougall
Head of Commercial Sales - Scotland, North-East & Northern Ireland

Greg Mocke
Head of Commercial Sales - London & South-East

Jason Milligan
Head of SFS

Cherise Hardy-Edwards
Marketing Manager

Scott Jackson
Head of Customer Experience

Pawel Mordyl
Site Operations Manager

Jack Bullock
Commercial Financial Controller

Tom Johnson
Technical Project Manager

Jonathan Lamb
Technical Project Manager

Tessa Jackson
Technical Project Manager

Gary Fillingham
Estimator

Simon Pritchard
Estimator

Nataliya Gach
Production Administrator

Bohdan Mihajlisin
Production Manager

SAINT-GOBAIN

WORKING WITH YOU AND YOUR SUPPLY CHAIN

Our sectors are your sectors, covering:

- Medium-rise – up to 12 storeys load-bearing*
- *High-rise – using in-fill & envelope systems*
- *Low-rise – using our ILRH system*

We work with you, and your wider supply-chain as early as possible to:

- Design out cost, waste, inefficiency, ambiguity

We work with:

- Clients, Developers & Architects
- Principal and Main Contractors
- Specialist Sub-Contractors

** This can be on top of an RC or HRS podium for open-plan commercial at lower levels if required*

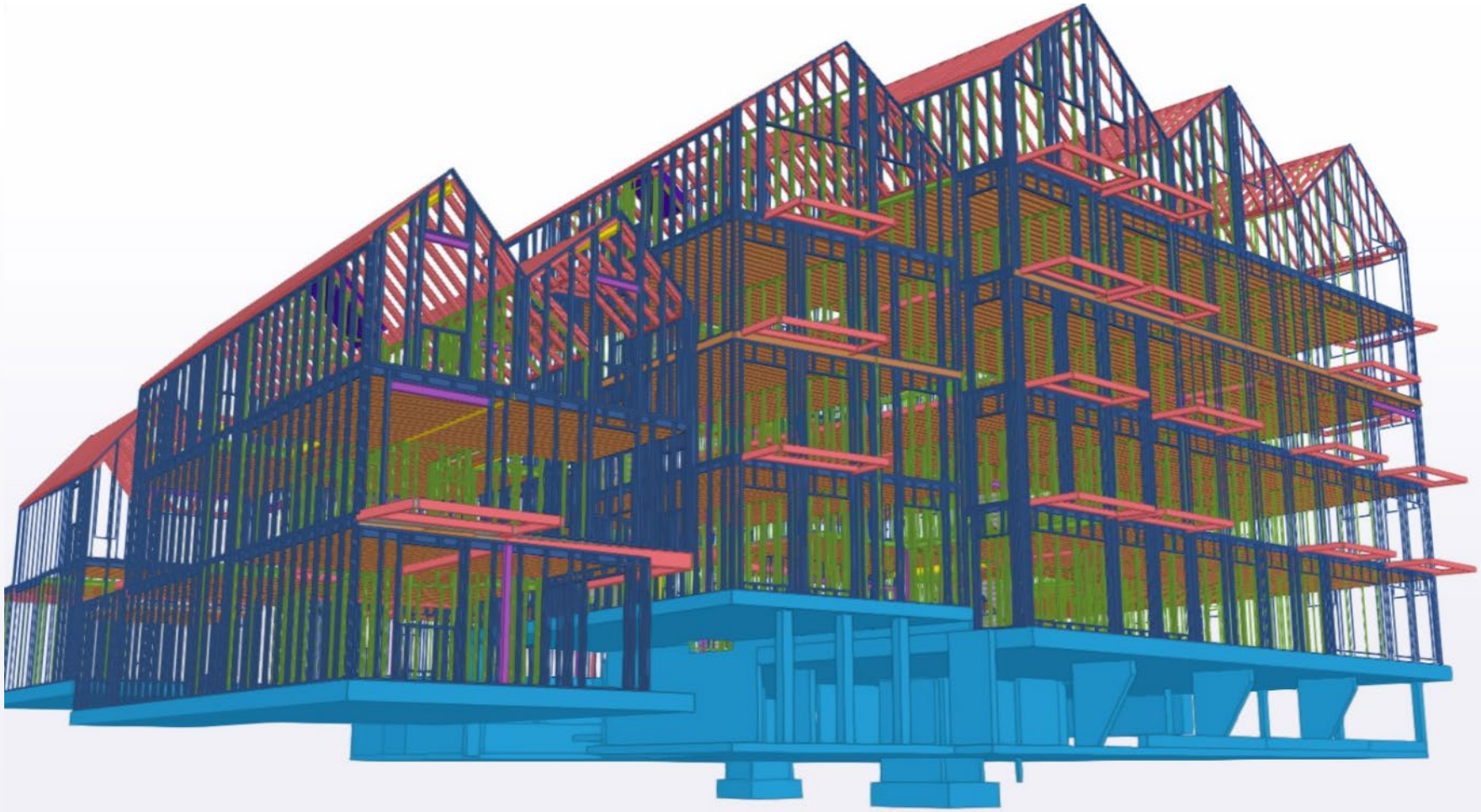
SAINT-GOBAIN

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 is then fed into 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.

SAINT-GOBAIN

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.

SAINT-GOBAIN

THE INTRASTACK PROCESS

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

INSTALL

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

SAINT-GOBAIN

KEY BENEFITS OF LGSF TECHNOLOGIES

Design Flexibility
Intrastack's pre-panelised structures enable 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 of on-site labour, reduced working-at-height, and 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-panelised 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.

*For more information on this please refer to third party studies (ED020/ RT1730) conducted by The SCI (The Steel Construction Institute). Reductions will vary by project, based on a number of variables. The % difference will depend on the proposed project specification and build approach. Comparisons will vary depending on specific comparison details and lifecycle stages.

SAINT-GOBAIN

SYSTEM TESTING & CERTIFICATIONS

TESTED & CERTIFIED

BOPAS (Buildoffsite Property Assurance Scheme)

Provides assurance that construction systems designed, manufactured and installed by accredited MMC Providers will conform to industry best practice in terms of durability and system integrity.

SCI/NHBC Stage 1

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”.

Advantage Approval (AHCI)

AHCI have reviewed the structural characteristics of this system for certification and confirm that it is acceptable for use in the construction of dwellings in accordance with AHCI Standards Chapter 11.0 “Light Steel Framed Buildings”.

Premier Guarantee - System Acceptance

This product has been assessed by LABC Warranty as being fit for its intended use provided it is installed, used and maintained as set out in the System Acceptance Document and documents provided by the product manufacturer. Category 2 Light Gauge Steel Panelised System wall and roof system with Sheathing Board.

LABC Warranty – System Acceptance

This product has been assessed by LABC Warranty as being fit for its intended use provided it is installed, used and maintained as set out in the System Acceptance Document and documents provided by the product manufacturer. Category 2 Light Gauge Steel Panelised System wall and roof system with Sheathing Board.

Checkmate

System Approval: Intrastack Low-Rise Housing (ILRH)

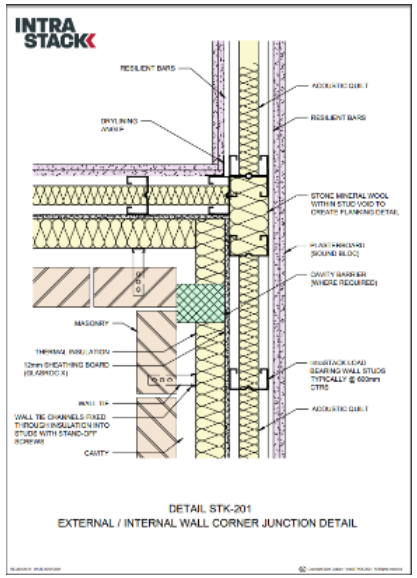
Certificate ref: SG0823

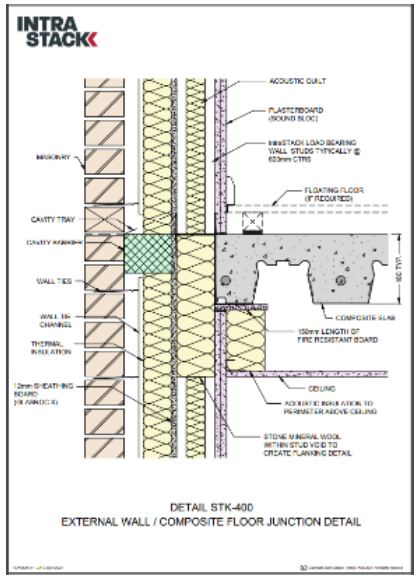
https://www.intrastack.co.uk/about-us/certifications-memberships

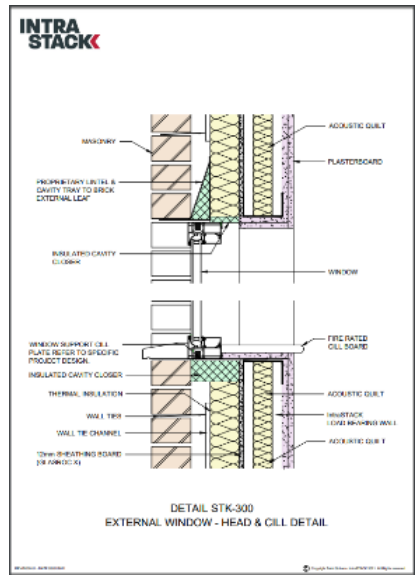
SYSTEM TESTING & CERTIFICATIONS

TESTED BUILD-UPS & DESIGNS

We provide extensive fire test results for our most popular wall and floor build-ups for LGSF load-bearing and non-loadbearing, multi-storey and low-rise housing solutions, as well as comprehensive standard details for all our steel solutions.







› 90MIN EXTERNAL LOADED WALL
FIRELINE & GLASROC X

TESTED IN ACCORDANCE WITH BS EN 1365-1:2012

WALL BUILD UP:*

- 2 layers 15mm British Gypsum Gyproc Fireline plasterboard (fireside)
- 100mm Intrastack loadbearing steel frame
- 100mm Isover Acoustic Partition Roll (APR 1200) in stud zone
- 1 layer 12.5mm British Gypsum Glasroc X sheathing board (non-fireside)
- 200mm Isover Polterm Max Plus insulation (non-fireside)

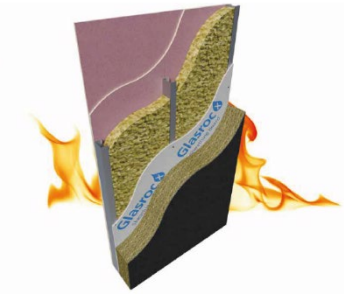
Tested build up did not include breather membrane or vapour control layers, client to assess.

FIRE TEST RESULT:

- 90 minutes
- Tested in accordance with BS EN 1365-1:2012
- Tested load 60kN
- Direction of fire: in to out (internal lining through to façade)

APPLICATION RESTRICTIONS:

- Minimum stud depth 100mm
- Maximum stud centres 600mm
- Minimum stud metal gauge 1.2mm



Disclaimer:
* Restrictions apply for material specification and fixing details for the testing to be relevant. These will be accounted for within the Intrastack design platform. All testing information to be applied using the direct field of application of the results.

› 120MIN NON LOAD BEARING
ISOVER POLTERM MAX PLUS

TESTED IN ACCORDANCE WITH BS EN 1364-1:2015

WALL BUILD UP:*

- 2 layers 15mm British Gypsum Gyproc SoundBloc plasterboard (fireside)
- 100mm Intrastack non-loadbearing steel frame
- 100mm Isover Acoustic Partition Roll (APR 1200) in stud zone
- 1 layer 12.5mm British Gypsum Glasroc X sheathing board (non-fireside)
- 200mm Isover Polterm Max Plus Insulation (non-fireside)

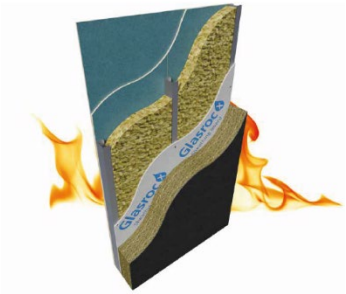
Tested build up did not include breather membrane or vapour control layers, client to assess.

FIRE TEST RESULT:

- 120 minutes
- Tested in accordance with BS EN 1364-1:2015
- Direction of fire: in to out (internal lining through to façade)

APPLICATION RESTRICTIONS:

- Minimum stud depth 100mm
- Maximum stud centres 600mm
- Minimum stud metal gauge 1.2mm



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› 60MIN FLOOR - LOW RISE LOAD BEARING
FIRELINE

TESTED IN ACCORDANCE WITH BS EN 1363-1:2020 and BS EN 1365-2:2014

BUILD UP:*

- 2 layers 12.5mm British Gypsum Gyproc Fireline plasterboard (fireside)
- British Gypsum Gypframe Resilient Bar (RB1)
- 200mm Intrastack steel joists
- 50mm Isover Acoustic Partition Roll (APR 1200) in joist zone
- 1 layer 22mm CaberDek (non-fireside)

FIRE TEST RESULT:

- 60 minutes
- Tested in accordance with BS EN 1363-1:2020 & BS EN 1365-2:2014
- Tested load 3.0kN/m2
- Direction of fire: from below

APPLICATION RESTRICTIONS:

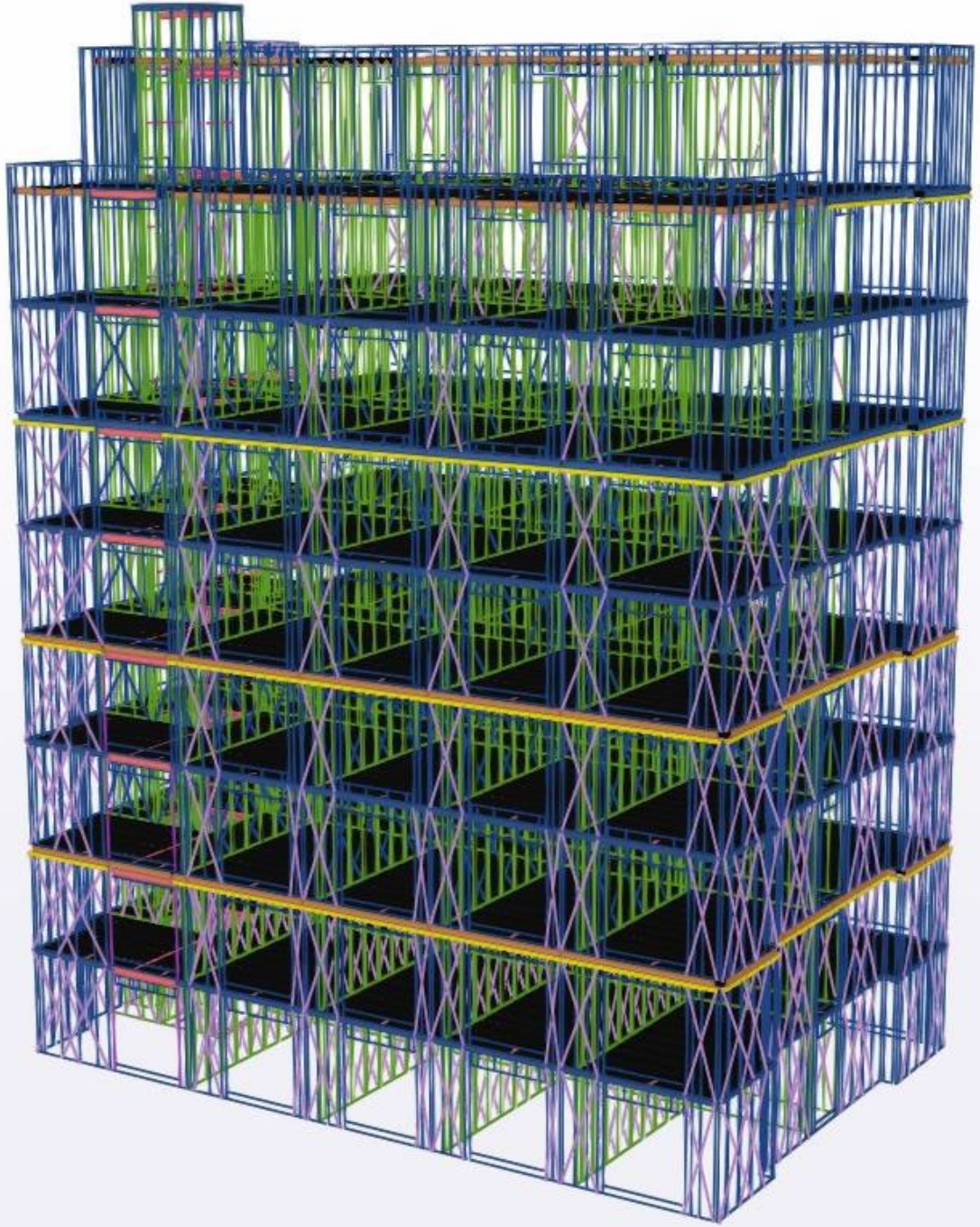
- Minimum joist depth 200mm
- Suitable for low rise housing up to 3 storeys only
- Maximum joist centres 600mm
- Minimum joist metal gauge 1.2mm

Disclaimer:
* Restrictions apply for material specification and fixing details for the testing to be relevant. These will be accounted for within the Intrastack design platform. All testing information to be applied using the direct field of application of the results.

LGSF – MEDIUM-RISE SYSTEM OVERVIEW

Intrastack provides:

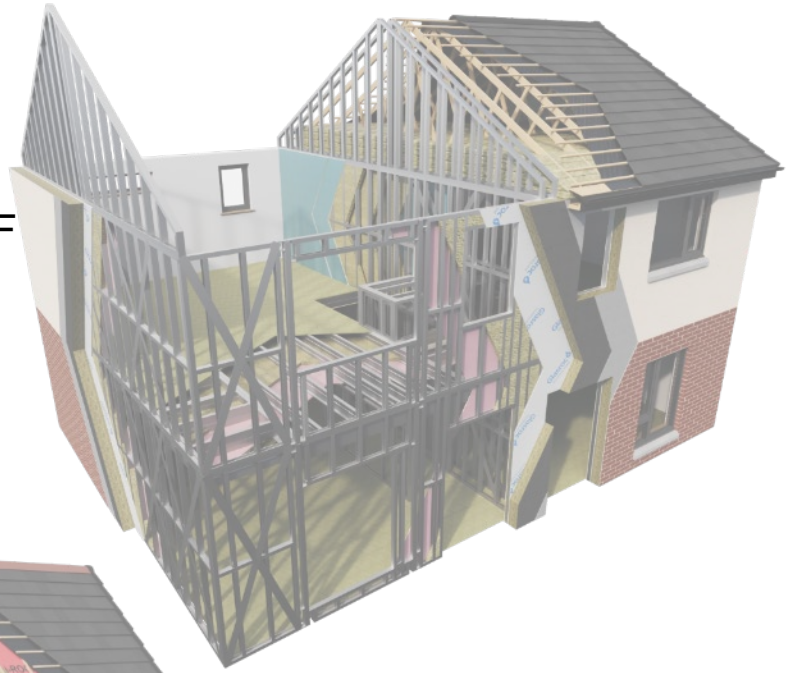
- Fully load-bearing structures up to 12 storeys in height
- Optimised LGSF solutions specific to your project, covering:
- Pre-panelised external walls, internal separating walls, and partitions*.
- Separating floors, roof cassettes & lift shafts.
- Balconies, stairs, and any other site-required hot-rolled steel components.
- We can provide a composite concrete floor, that would be site installed & poured by system installers.
- We can also provide in-fill and pre-assembled-façade systems - should your project not lend itself to a full LGSF load-bearing structure.

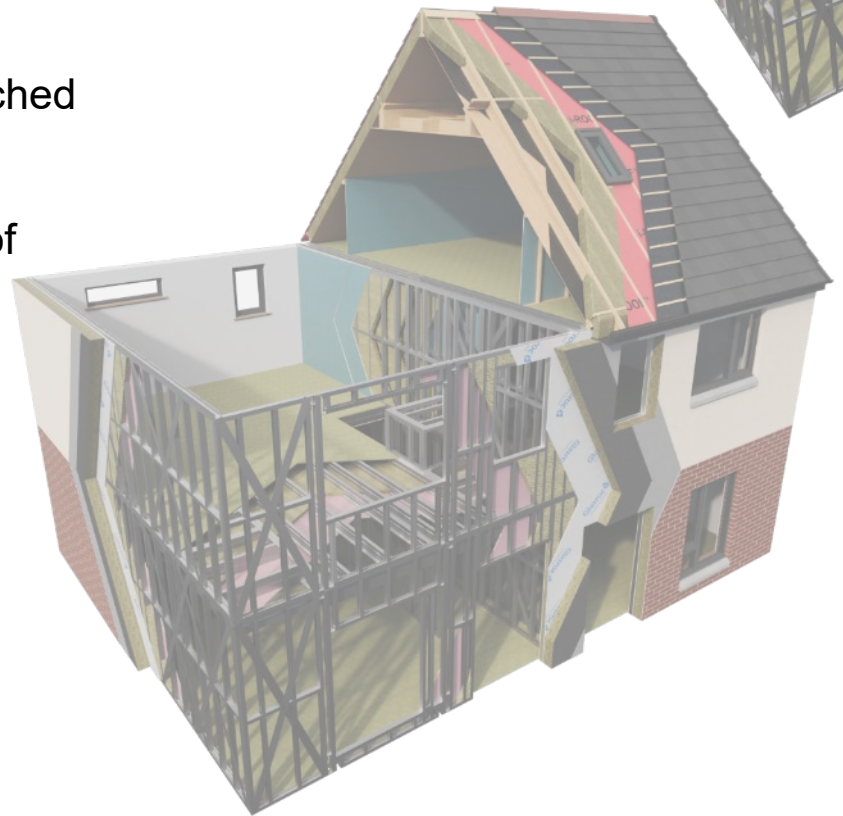


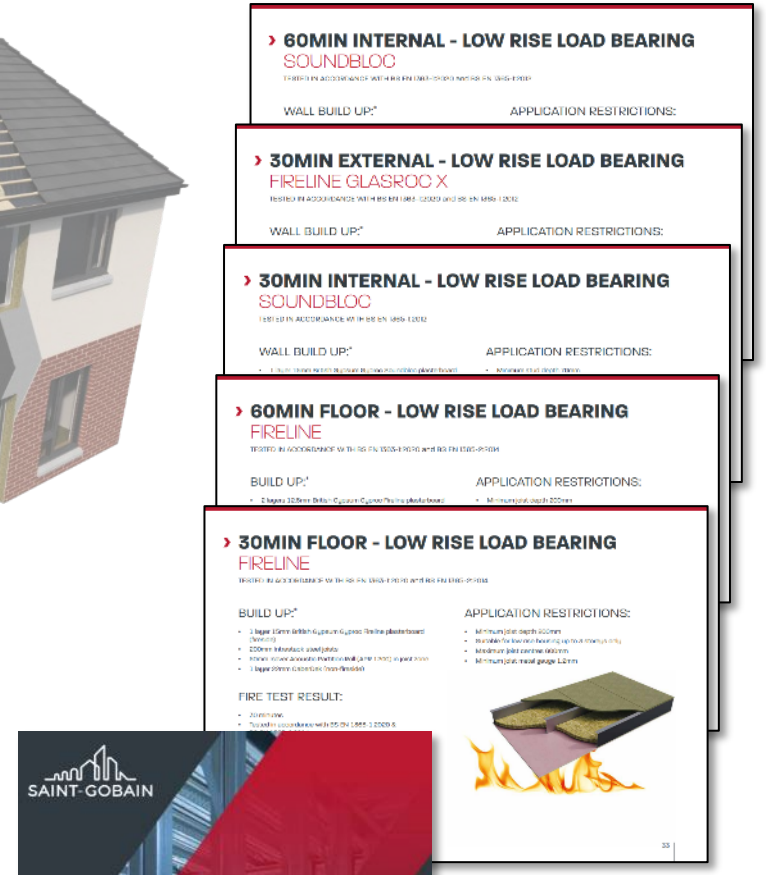
** Only internal partitions required to carry load are typically provided.*

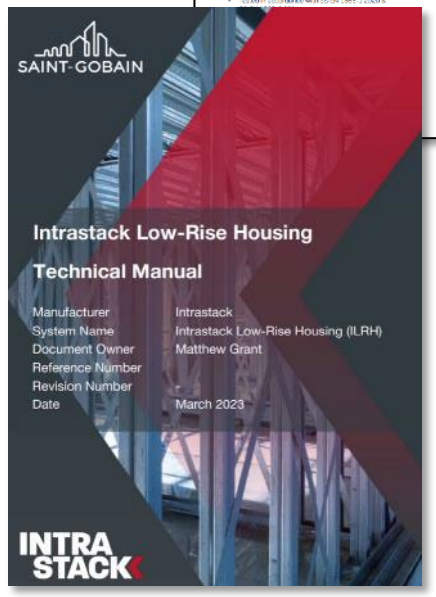
INTRASTACK LOW-RISE HOUSING

- Further complementing the Intrastack family of LGSF solutions
- Providing the same benefits of MMC
- Fully tested & accredited
- Single-family homes
- Cottage apartments
- Terraces & semi-detached
- Timber trussed roof
- Cassetted room-in-roof
- On-site now









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INTRASTACK INFILL / SFS

Infill walls, also known as SFS, are non-loadbearing external walls built between floors of a primary structural frame; they are used to provide support for the cladding system.

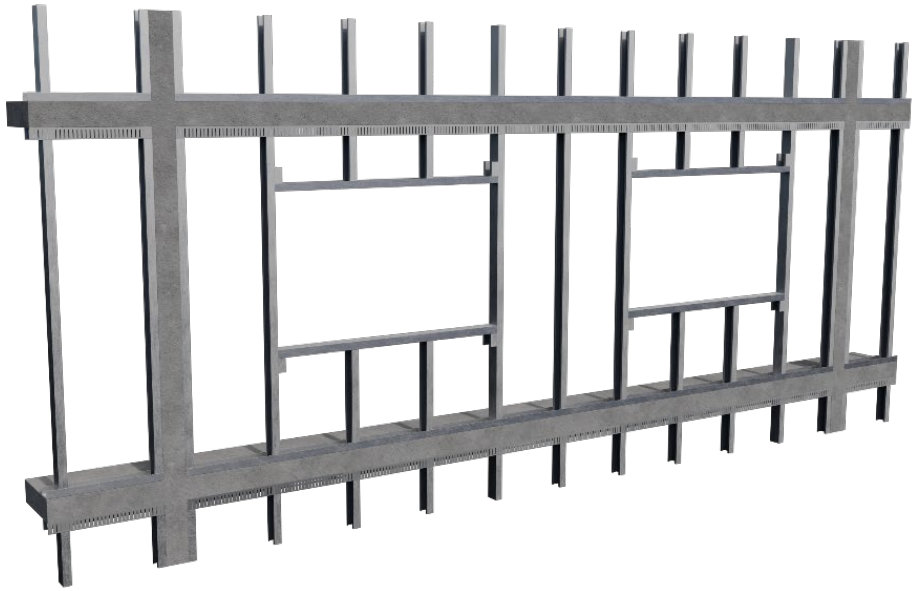
Non-loadbearing external wall system

Intrastack's light steel infill walls (SFS) use vertical C-sections, known as studs, spanning between the floors of the primary frame and around openings.

The size and spacing of C-sections are selected based on structural requirements, as well as compatibility with external façade materials and standard plasterboard widths.

Wall panels can be pre-fabricated as storey-high units or assembled on-site from cut-to-length C-sections, offering flexibility for different construction scenarios.

Intrastack's SFS system forms part of **GypLyner Xternal** – a complete Saint-Gobain through-wall solution.



Key Benefits of SFS:

- Quick installation
- Dry construction process
- Design flexibility
- Superior fire resistance
- Exceptional acoustic insulation
- Enhanced thermal efficiency
- Versatile cladding support
- Lightweight construction

SAINT-GOBAIN GYPLYNER XTERNAL

GypLyner Xternal is a full Saint-Gobain through-wall SFS solution that has a range of detailed and tested fire and thermal performance specifications, all supported by market leading technical evidence.

Through-Wall Infill Solution

With thorough testing and technical know-how at the core of what we do, trusted Saint-Gobain partner brands, Intrastack, British Gypsum and Isover, are working together to provide a reliable infill solution that has been designed to offer versatility and exceed the expectations of our customers.

Our exacting standards for design and testing give you the certainty you need when developing your multi-storey projects.

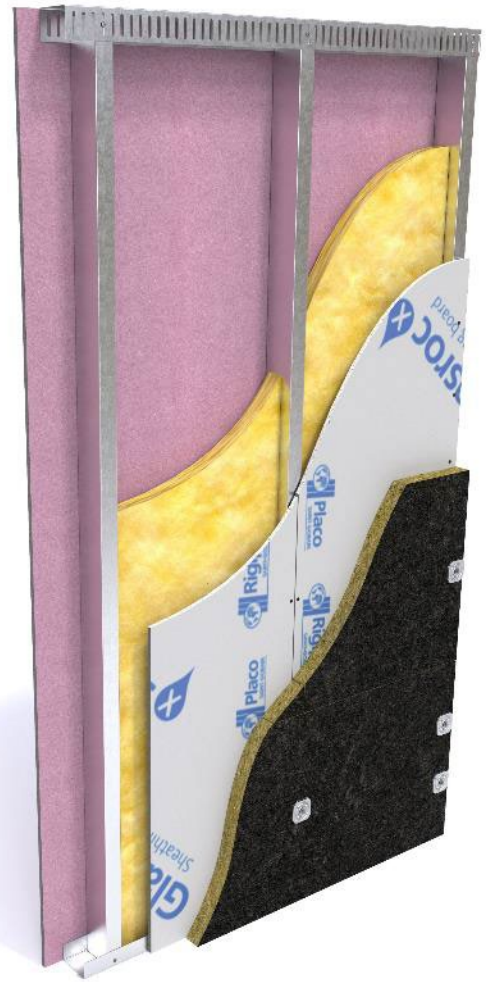
Delivering attention to detail and providing reassurance with substantiated evidence, this external wall offering has a clear range of regulation & performance specifications to suit all your needs.

Full Warranty

GypLyner Xternal is covered by a full Saint-Gobain Warranty, which is a combination of British Gypsum's SpecSure® & Intrastack's Design Warranty.

Key Information:

- Systems designed to offer flexible specification options.
- Meet and exceed thermal performance needs through a range of insulation solutions.
- Comprehensive fire and acoustic tested solutions.
- Fire resistance to BS-EN 1364-1 EI 60, 90 and 120 mins (inside to out, outside to in).
- Installation details for junctions, abutments, windows and deflection requirements.



EXAMPLE PROJECT
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

www.intrastack.co.uk/project/abbey-wall

EXAMPLE PROJECT

IMAGES STUDENT ACCOMMODATION, 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

www.intrastack.co.uk/project/images-worcester

EXAMPLE PROJECT
THE PRESSWORKS, BIRMINGHAM

- 3 blocks x 4 to 5 storey apartments
- Wrapping around existing, listed buildings
- Directly onto public footpath & through-road
- Complex horse-shoe configurations
- 16-week installation programme
- BR Hodgson installing

www.intrastack.co.uk/project/the-pressworks

EXAMPLE PROJECT
THE MALL, EALING

- 10 storey inner-city living - apartments
- Directly next-to TFL Ealing Broadway
- Access via neighbouring properties
- Very little site landing capability
- 11-week installation programme
- SDP solutions installing

www.intrastack.co.uk/project/the-mall-ealing

EXAMPLE PROJECT
THE HEIGHTS, GREENWICH

- 2 blocks x 5 storey apartments
- Next to neighbouring properties
- Limited local access routes
- Increased thermal performance requirements
- 12-week installation programme
- SDP solutions installing

www.intrastack.co.uk/project/the-heights-apartments-greenwich

EXAMPLE PROJECT
COLLYHURST VILLAGE (PHASE 1), MANCHESTER

- Part of major regeneration project in Manchester
- 3 blocks of 5 & 6 storey apartments
- 100 new flats made available
- 1st village of 7 planned
- 16 weeks LGSF structure installation - block 1
- DEX Construction main contractor

www.intrastack.co.uk/project/collyhurst-village

EXAMPLE PROJECT
ENNERDALE AVENUE, MANCHESTER

- Low-rise housing scheme
- 8 family homes
- 4-week installation programme
- 300 steel frame panels used
- 15 tonnes in total of cold rolled steel
- 2.6 tonnes in total of hot rolled steel

www.intrastack.co.uk/project/ennerdale-avenue

Head Office: Saint-Gobain Off-Site Solutions, 1 Herald Way, Binley Industrial Estate, Coventry, CV3 2GZ

Manufacturing: Wigan Lane, Duxbury (nr. Chorley), PR7 4BU

Contact: intrastack@saint-gobain.com

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