# Off-Site Framing

Delivering your solution

MANSELL
BUILDING
SOLUTIONS


Trusted supplier
and installer of

OFF SITE
FRAMES

# We master your build

## Providing off-site solutions to deliver real benefit

**Offering clients beautiful and practical solutions is one thing. Having the skill and experience to fully manage your build from inception to delivery if required, is another.**

Our dedicated off-site design and installation teams are on hand to advise on anything from design development, to interfaces with other trades.

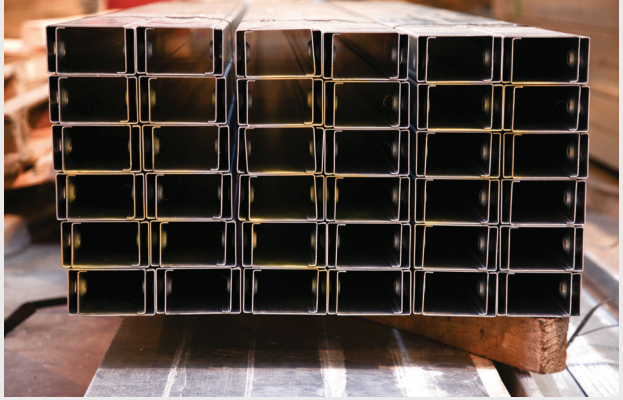
For us, it's not just about providing the materials and labour; it's about over delivering on our client's expectations to ensure the best possible result. It's this combination of skill, understanding and a real passion for what we do that makes us stand out.

Our approved framing partner is Metsec and the Metframe solution is one of the UK's leading load-bearing cold rolled structures. Metframe is suitable for a wide range of applications in most sectors of construction from two up to 15 stories high. Our off-site team can design, fabricate, supply and install Metframe SFS/LGSF structures, any hot rolled steel requirements, staircases, composite reinforced concrete floors (LWSF floor cassettes also an option), lift shafts and balconies.

Leading the off-site division is Mike Foy, Divisional Director. Mike is fully responsible for all elements of the division, including operational and commercial elements, plus client relationship management.

> We have dedicated, specialist installation and commercial teams who understand project requirements from inception to delivery and, by taking a planned approach, the whole supply chain is fully integrated ensuring exceptional results all round

**Mike Foy**
Divisional Director, Off-Site Framing



# Off-site steel frames

## A modern method of construction

**Time, environmental factors and budget constraints are always important in any construction project, so speedy, quality solutions, which assist the building's life-cycle, can make a real impact to a build programme.**

We are one of only a handful of companies in the UK with the skills and capability to deliver pre-panelised SFS solutions and we pre-fabricate the panels in a controlled and stable production environment at our manufacturing facility based in Greater Manchester. This ensures the best possible quality and our SFS solutions have been recognised as a high-level performance solution by the Code for Sustainable Homes and BREEEAM.

As the pre-fabricated panels are delivered to site when they are needed using just in time delivery methods, we are able to speed up the construction process by up to 30%. Our off-site SFS solutions deliver economies of scale, especially in projects where there's a repetition of units and standardised design simplifies and reduces the need for specialist input resulting in even more cost savings. By utilising off-site SFS solutions, site safety can also be improved by a factor of five according to the HSE. Additional, there are a whole host of environmental benefits, including a reduction in waste of 25%.

### Steel Framing 'Quick Facts'

- A problem solving solution with a fast build time and convenient offsite construction.
- An accurate, environmentally friendly process that eliminates site waste.
- A speedy method that simplifies the build programme and makes crucial savings.
- A high performance material hitting thermal, acoustic and fire protection standards.
- Our steel frames are CE marked, each building is accredited by the NHBC and they all carry a European Technical Assessment.
- A modern method of construction supporting the Government's 'build back better' agenda.

## Convenience

Keeping things offsite for the initial stages allows us to work in tandem with our partners, delivering the structure at the critical point.

Cold rolled sections of steel are first constructed by expert steel manufacturers, then assembled by approved installers, all in our specialist warehouse.

Then we create an envelope, either through pre-cladding the external walls in cement particle board, or rigid insulation, with the optional addition of brick tie channels. This neat and precise preparation makes it a durable, flexible and ready-to-go solution, all before reaching the site.

## Accuracy

Without accurate methods, time and money can easily be wasted in a construction project.

The flexibility offsite SFS gives means that a sequence can be predefined while the steel frame is still in the warehouse. Not only does this simplify the next steps and allow for meticulous and considered planning and delivery, it also speeds things up.

Once the sequence has been set, the panels are delivered in the agreed order, lifted into place, and fixed and bolted together, swiftly laying down a solid template and creating the structure of the walls ready for the finishing touches.

## Sustainability

A green construction method, and highly sustainable.

By using offsite LGFS, foundation loads are reduced by over 70% compared to concrete or brick, which reduces the impact of transport needs and related carbon emmissions.

Prefabricated frames and components get rid of site and production waste almost completely. Compare this to an average 10% materials site waste with other solutions.

Steel frames also work hard when it comes to thermal insulation and air tightness. Embodied carbon is reduced by up to 20% with steel framing. The solution is also completely compatible with renewal energy technologies, making them easy to attach and extend.

## Speed

Through using such a lightweight, flexible and innovative framing system, the need for hot rolled steel and concrete is reduced.

Steel frames already include cross bracing, increasing the strength of the structure from the earliest stage, so additional stabilisation isn't required. And this innovative way of building means that key components in the structure, such as stairs and lift shafts, right down to the bathroom pods, are already part of the frame, slotting in step by step as the panels are put into place.

## High Performance

With the frame in place, the final major details can be quickly, and easily added, meeting specific fire and strength requirements with the installation of rebar and crack control mesh, and laying concrete floors within a rate of one to two weeks on each level.

Speedy and efficient, this process allows follow on traders to work up through the structure level by level as we complete them, fitting windows and adding crucial finishing touches. And it's this smart, time effective, step by step approach that makes for a completely flexible, fast track method to achieving outstanding results.

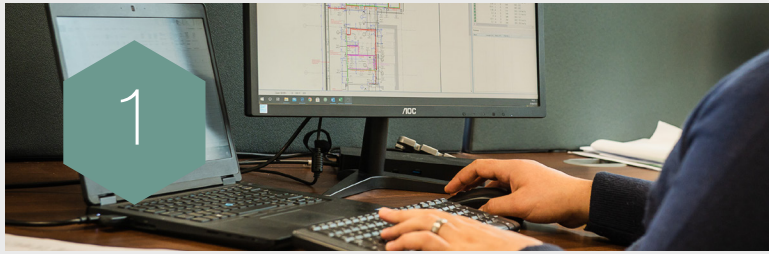
## Partnership

We are an approved Metsec Metframe installer.

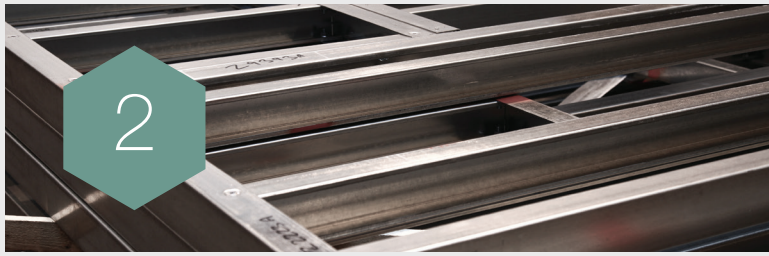
An early adopoter of SFS, our off-site team has been working as an approved installer to the UK's largest specialist cold roll forming company, Metsec, for 20-years. Metsec's Metframe is leading the market in pre-panelised, off-site framing solutions, and SFS light gauge galvanised steel structural framing systems. The successful partnership builds upon real innovation and is forefront of industry research and development.

# Our process

## A step-by-step guide




Project management




Off-site manufacturer

**The construction process can be a multi-layered one, so partnering with a real expert of each and every stage can make all the difference.**

Our specialist expertise allows us to go above and beyond for our clients whether it's for just one part of the process, or across the project from aiding design to completion.

It's this practical know-how that allows us to problem-solve, provide workable solutions and approach each step with real professionalism and the minimum of fuss.

By working directly with the best manufacturers in the industry and creating solid relationships with our chosen suppliers, we are able to retain full control of the project and provide technical support from beginning to end.


Install on-site


Finishes

1

# Project management

It's important to have support at every stage of a construction project and we pride ourselves as having a comprehensive knowledge, from development of design right through to high quality finishes.

This ability to see and work across the bigger picture means that we are able to aid at all steps of the design programme.

Regardless of whether we are partners for the whole project, or just helping out with one part, our knowledge ensures a faultless handover from one stage to the next. It's this joined-up approach that ensures a smooth delivery each and every time.

2

# Off-site manufacturing

We believe that taking control of a project means working around mitigating circumstances like the weather, lack of space or tight turnarounds which can so easily hold things up or complicate a process. With factors like timing being integral to costs and delivery, one small hitch can be massively impactful. Our expansive facilities allow us to combat these problems by manufacturing and pre-assembling bespoke panels off-site, resulting in a speedier, smoother and ultimately, cost-efficient service.

While state of the art technology within the supply chain allows us to deliver to specification, to the minute detail, from specific door size to exact bolt-hole positioning.

3

# Install on-site

Installing on-site is a critical part of any project. Our advanced technical knowledge and meticulous planning enable us to approach this step with confidence. There's more to just lifting the pre-fabricated panels into place, this stage is when things take shape and we appreciate the key importance of laying the basis for the building finishes.

From stairs, floors and even the roof, our specialist knowledge allows us to take over this section of the build without relying on multiple parties and contractors to help get your structure weather-proof and ready for completion.

4

# Finishes

We have been helping our clients with impeccable finishes for nearly 30-years and this heritage has asserted our place as the largest drylining and plastering business in the north west of England. With the skill to deliver from planning right through to project delivery, and with clients spanning across sectors from residential to commercial, we are proud to call ourselves the authority across a wide range of projects.

It's this scope of understanding that enables us to deliver quality, flawless finishes to complete each build to perfection.

# Why LGSF?

## A new service offering for the housing sector

> It's time for a different conversation about how we achieve housebuilding targets in the UK

**Angela Mansell**
Managing Director

Leading the field in off-site framing solutions, we are excited to launch our new LGSF offering into the low-rise residential market.

An early adopter of SFS installations over 20-years ago, and one of only a handful of companies in the UK with the skills and capability to deliver off-site pre-panelised solutions, the team has worked on some significant high rise-projects resulting in changing the skyline of city centres across the country. Expanding into the low-rise housing market, targeting social and private residential, is now the next strategic step in expanding the business.

Aligning with the Government's recently announced 'Green Industrial Revolution' and, prior to that, the housing white paper 'Fixing our broken housing market', the off-site team intends to deliver more homes, much faster, and with a lower environmental impact.

With up to 180,000 new homes identified to be built between 2021 to 2026 under the Affordable Homes Programme, the solution to build quicker and more sustainably, yet maintain an exceptional level of quality, is something which is long overdue in the industry.

The fabrication and installation of off-site panelised lightweight SFS for housebuilders and main contractors will provide a direct alternative to timber frames and traditional construction and, importantly, is part of the solution to build new homes more efficiently across the country.

# LGSF Vs traditional methods

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| **LGSF** | • Lightweight leading to reduced foundation time and cost<br>• Very fast speed of erection and less susceptible to inclement weather build delays<br>• Fewer site operatives building superstructure with Covid-19 distancing benefits<br>• Follow on trades can begin sooner if programmed correctly<br>• Less waste leaving site<br>• Much higher level of recyclable material at end of building life | • Structure requires additional fire protection compared to RC frame<br>• Early engagement required in design solution to optimise programme efficiency of LGSF |
| **Timber frame** | • Historically lower cost/m2 than LGSF, but timber prices are increasing<br>• FSC – sustainable construction | • High in-build fire protection costs<br>• Structure requires greater fire protection<br>• Settlement deflection up to 8mm per floor - resultant settlement cracking<br>• Susceptible to moisture content variations<br>• Height limited by legislation to 11m |
| **Reinforced concrete (apartment blocks)** | • Very robust<br>• Good acoustic properties<br>• Inherent fire resistance<br>• Allows clear spans with flat soffits | • Heavy solution. Requires larger foundations<br>• Slow construction process compared to LGSF<br>• Can be more expensive than LGSF<br>• Large carbon footprint<br>• Poor recyclability at end of building life<br>• High on-site waste removal requirement |
| **Load bearing masonry** | • Trusted method of construction<br>• Follow on trades familiar with methods of build | • Only suitable for low rise<br>• Labour intensive with higher associated HSE risks<br>• Much slower construction process<br>• Access to wet trades becoming more difficult |

# Our projects

## Helping clients achieve best results

**Over the years, we've partnered with a wide range of clients across the UK, to deliver bespoke steel framing solutions across the commercial, residential, education, health and leisure sectors that make a real difference to each construction project.**


### The Refinery, Leeds

A new build 407 bed student accommodation, with facilities including shared social hubs, a cinema, gym, games room, concierge and state-of-the-art 24-hour security. The nine, 10 and 11-storey scheme comprises studios and bedroom clusters with terrace and garden features. The team provided pre-panelised SFS, RCM external boarding and SMD steel decking to the project.

**Contract Value:** £3.1 million

**Main Contractor:** GMI Construction

**Architect:** AHR

## Cowley Road, Oxford

The facade of this development is being remodelled to incorporate three new floors on top of a Tesco Metro, containing 137 new student flats.  The block will  also contain a gym/yoga room, communal kicthens, a common room, TV room, work rooms, laundry and a covered cycle store.

Our involvement in this project included design, fabrication and installation of Metframe LGSF, concrete floors, staircases, hot rolled scaffold support.

**Contract Value:** £930k

**Main Contractor:** RG Group

**Architect:** Malcolm Hollis

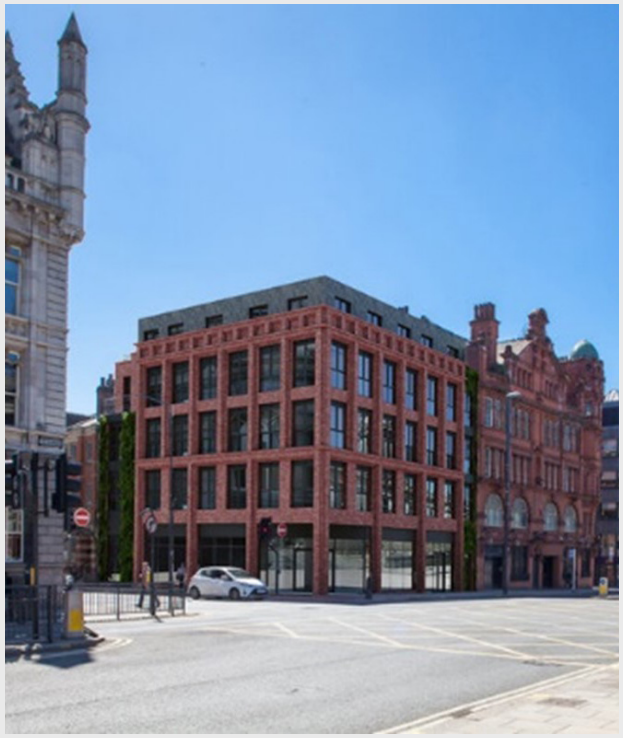
## The Forge, Digbeth

Built over six-storeys with a ground floor steel frame podium, The Forge in Digbeth is a stunning development of 140 luxury apartments in one- and two-bedroom residences, suitable for first time buyers and families alike. The team provided pre-panelised SFS, external sheathing boarding and holorib steel decking.

**Contract Value:** £1.85 million

**Main Contractor:** Wavensmere Homes

**Architect:** St Pauls Associates



## Jubilee Hotel, Leeds

Redevelopment of the existing building with a new build extension consisting of a 43-bed aparthotel, bar, office space and gym. The team designed, fabricated and installed Metframe LGSF.

**Contract Value:** £523k

**Main Contractor:** Simpson York

**Architect:** AHR

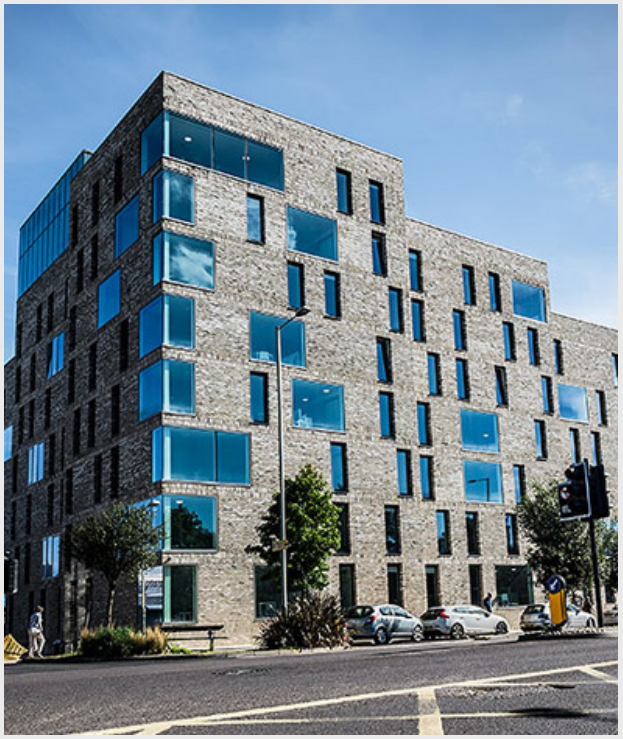
## Premier Inn, Bromley

An impressive six storey, tightly curved 130 bedroom Premier Inn development for Cathedral Group located in Bromley, London. We took a key role in the design phase of the project, with specialist input regarding the detailing of the Metframe SFS for the new hotel at the heart of the £90m Bromley South Central regeneration scheme; a mixed use initiative aimed at transforming the town centre.

**Contract Value:** £1.2 million

**Main Contractor:** McLaren Construction

**Architect:** Studio Egret West



## All Saints Green, Norwich

An impressive, nine-storey, 228 bedroom student accommodation project including the renovation of a Grade II Listed building and outdoor park. We manufactured the SFS system, and pre-panelised the frames in our warehouse, before delivering and erecting on site.

**Contract Value:** £1.5 million

**Main Contractor:** Morgan Sindall

**Architect:** Carson + Partners Architects

“Mansell Building Solutions is great at what they do. Timings are always spot on, so we have a smooth transition from being ready for the frame, getting it onsite and then erecting it quickly. Ultimately though, the proof is in the quality of the product once it’s in place, and steel framing is so robust and sustainable compared to timber frames. It’s just a no brainer for us.”

**Richard Smith**
Design Manager, Morgan Sindall

# LGSF case study

## Broadoak Mews: start to completion in just 30 days




### Broadoak Mews, Solihull

Broadoak Mews comprises nine luxury homes across two blocks and is the second phase of the wider Broadoak residential scheme. Led by Shropshire based main contractor Bespoke Construction,, these three and four-bedroom houses have been designed with sustainability at the fore.

The skeleton of the development has taken the form of off-site panelised LGSF, a solution which offers speed and precision to a project. Working with approved partner Metsec, the lightweight sections were delivered to our production facility to pre-panelise the system and fabricate to strict factory-controlled tolerances to guarantee accuracy and quality.

Broadoak Mews is the first low-rise housing development utilising this lightweight system and install was completed in just 30-days. Walls and intermediate floors were fabricated and installed in the same manner as the heavier gauge Metframe, however the 'Tek Screw' system doesn't require bolts and overall, is more commercially competitive for low rise housing markets.

**Contract value:** £188k

**Main contractor:** Bespoke Construction

**Architect:** Wake Morley Architects

# The team

## Say hello to our off-site management team

**Angela Mansell**
**Managing Director**
angela.mansell@mansellbuild.co.uk

Angela was appointed to the board in January 2002 as Operations Director and in April 2019 moved into the Managing Director role. She is responsible for the strategic direction of the company. She was also the first female president of the FIS serving three years in the role.

**Mike Foy**
**Divisional Director, Off-Site Frames**
mike.foy@mansellbuild.co.uk

Mike was appointed as Divisional Director in 2021, previously being Commercial Director and, prior to that, Operations Manager. A Chartered Quantity Surveyor by trade, Mike has full responsibility for the off-site framing division and leads from pre-contract, handover to completion.

# Why Mansell?

## Everything we do challenges the norms to drive the future in specialist construction

Providing on-site finishes and off-site steel frames to main contractors and developers up and down the country we have worked on some of the most prominent developments changing the skyline of town and city centres.

We understand the challenges faced by the construction sector including growing demands to provide better value, quality and performance. This is why we've always taken an innovative approach to developing our service portfolio and to ensure that are able to address the evolving needs of the sector through our off-site framing solutions and on-site finishes.


**Our 'Quick Stats'**

- Second generation family run business
- 30 years industry experience across multiple sectors
- 35 strong team of professionals and a 150 strong workforce
- 1000+ projects completed
- 'Supporting local' across Greater Manchester
- Manufacturing facility in-house
- ISO 9001, 14001 and 18001 accredited
- Supporting client's sustainability agendas
- Strong commitment to social value initiatives and social enterprises

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