
THE
TIMBER FRAME
COMPANY

THE **TIMBER FRAME** COMPANY

TTFC started in 1998 and since then has grown from strength to strength. A family company located in Wexford town, we pride ourselves on our reputation for high quality products and excellent customer service. With a strong and established supply chain, TTFC's production and delivery capacity is built to supply any size or type of project. Residential developments, self builds, schools, hospitals, care homes and apartment blocks are all samples of completed projects in TTFC's diverse portfolio. With the combined experience of TTFC's design, manufacturing and management personnel, we have the resources to deliver any construction project. One of the fundamental aspects of TTFC's ethos is a commitment to customer satisfaction. Throughout the years, we have worked with numerous self-builders, architects, developers and contractors, building a reputation for providing high-quality timber frame buildings throughout Ireland and the UK and cultivating lasting relationships with these clients. At TTFC, we continue to research and develop our products and service to ensure the customers' requirements are met and exceeded. We are proud members of the Irish Timber Frame Manufacturers' Association who strive to improve industry standards. We are NSAI certified to IS440:2009+A1:2014 Timber Frame Dwellings which deal with the requirements that must be adhered to for materials, design, manufacture, construction details, site work and quality control.

IRISH TIMBER FRAME MANUFACTURERS' ASSOCIATION

NSAI

TTFC HISTORY

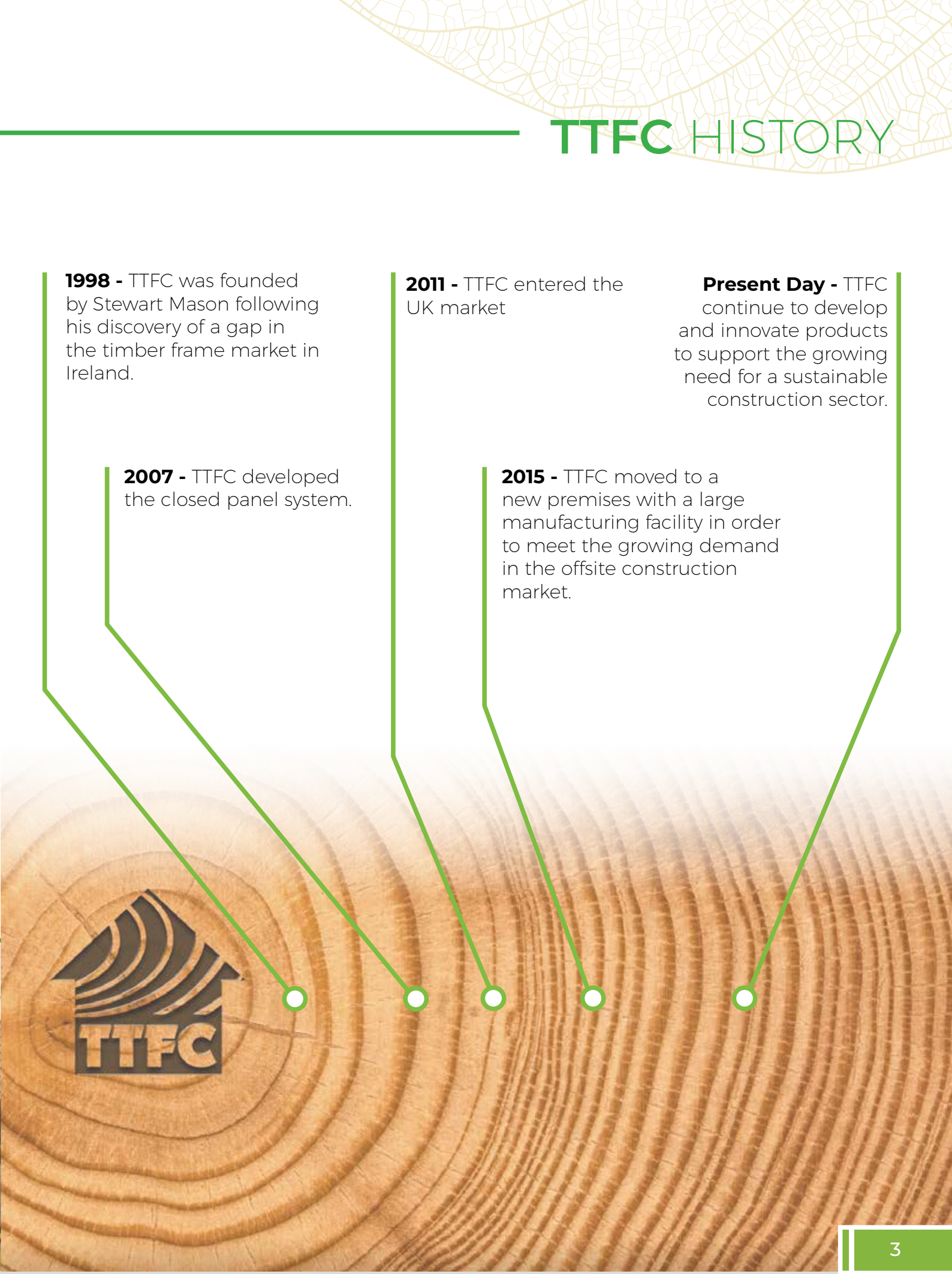
1998 - TTFC was founded by Stewart Mason following his discovery of a gap in the timber frame market in Ireland.

2007 - TTFC developed the closed panel system.

2011 - TTFC entered the UK market

2015 - TTFC moved to a new premises with a large manufacturing facility in order to meet the growing demand in the offsite construction market.

Present Day - TTFC continue to develop and innovate products to support the growing need for a sustainable construction sector.



WHY CHOOSE
TIMBER FRAME

With the steady growth of market share to 30% over the past 20 years, timber frame construction is becoming more popular than ever. This popularity is strong evidence of the many benefits and advantages that timber frame offers. These include the early realisation of project goals through increased speed of construction, true sustainability in materials and energy efficiency, and a high quality finished product.

SUSTAINABILITY

- Timber frame uses renewable materials, timber itself being one of the only sustainable, commercially available building materials.

- Timber frame manufacturers source timber from sustainable forests committed to replenishing harvested trees. All of TTFC's timber suppliers are PEFC certified.

- Timber frame is uniquely suited for offsite construction, which in turn allows for the reduction of waste and material consumption.

- Timber frame reduces CO2 emissions during the construction and life cycle of buildings. For example, the harvesting, production and transport of Timber produces 5 times less CO2 than traditional structures and an estimated 0.9 tonnes of CO2 is stored in every cubic metre of wood.

- Timber frame manufacturers employ a robust chain of custody which guarantees that all products are sourced in an environmentally responsible way.

PRECISION DESIGN & ENGINEERING

- Timber frame's precision design and engineering process reduces material consumption, reduces waste production, improves efficiency and ultimately saves time and money.

- Timber frame's design process allows for simple design modifications to take place and for any structural clashes to be designed out before arriving onsite. This can avoid any costly onsite changes and reduce lost time on the building programme.

- Timber frame is a precision-engineered structure which can reduce the amount of concrete in the foundation. This saves the stakeholder time and money while also reducing the carbon footprint of the construction process.

QUALITY

- Timber frame is manufactured offsite in a dry, quality-controlled environment. This ensures that everything from structural integrity to airtightness assurance is checked and signed off before arrival on site.

- Timber frame has its own NSAI standard, IS440:2009. It sets requirements for materials, design, manufacture, construction details, site work and quality control for timber frame construction.

- Timber Frame manufacturers' are audited annually by the NSAI to make sure a high quality, precision engineered product is received. It means fewer snags and defects with added quality assurance.

SPEED

- Timber Frame can reduce onsite time by up to 35%, ensuring a time-efficient build for clients.

- Timber Frame is less constrained by weather. This allows for certainty regarding the build programme and allows for the earlier introduction of trades.

- Timber frame can arrive onsite once the base and scaffolding are completed. Following a programme agreed upon weeks in advance ensures there will be minimal downtime.

SAFETY

- Timber frame uses a crane to place structural panels in position. This reduces onsite labour, manual handling, working at heights, and multiple scaffolding adjustments, thus making timber frame a safer way to build.

- Timber frame uses floor cassettes designed to increase onside speed and efficiency. These also reduce the number of working platforms required to install loose floor joists and floor sheeting, again leading to a safer working environment.

PERFORMANCE & ENERGY EFFICIENCY

- Timber frame offers an offsite construction solution that is mass-produced in a quality controlled environment and can quickly meet set targets of U-Values and Air-tightness as set out in Part L of the building regulations or a targeted A1 BER rating.

- Timber frame's easy achievement of these low u-values and airtightness levels coupled with the fast-heating nature of the product due to its low thermal mass guarantees low cost, energy-efficient buildings.

- Timber frame walls, floors and roofs are fire tested to EN1365 as per Part B of the building regulations. TTFC were part of the timber frame industry collective that took part in multiple fire tests since 2017, which now helps form the Supplementary Guidance to TGD B (fire safety) Volume 2 - Dwelling Houses 2017

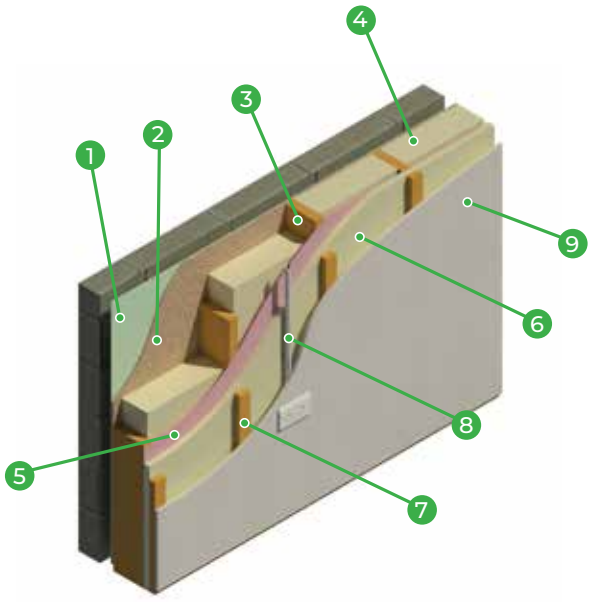
TTFC
TIMBER FRAME
SYSTEMS

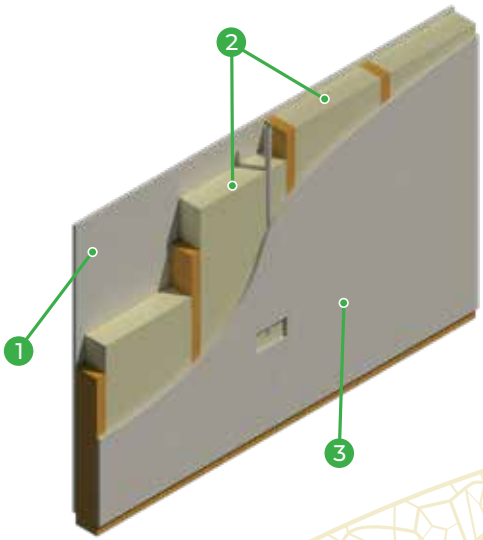
CLOSED PANEL TIMBER FRAME

The offsite construction market is becoming more and more popular. Contractors, architects, and developers see this construction method's advantages for all projects. It has seen the market evolve and grow to meet the demands across the UK and Ireland. In 2010 we developed our timber frame closed panel system, which dramatically reduces onsite time, waste and management. TTFC has also been amongst those who evolved the standard timber frame system to include factory fitted insulation, VCL and service batten. TTFC continue to research and develop its strategy and products to offer the best method available.

0.14W/m2K CLOSED PANEL WALL

1. Standard breather membrane
2. 9mm OSB3 sheeting
3. 140x38 CLS treated timber studs
4. 140mm insulation
5. Factory fitted VCL
6. PIR insulation
7. 50x35mm service batten
8. 25mm round PVC conduit to backbox cut out
9. 12.5mm Fibreboard





CLOSED PANEL INTERNAL WALL

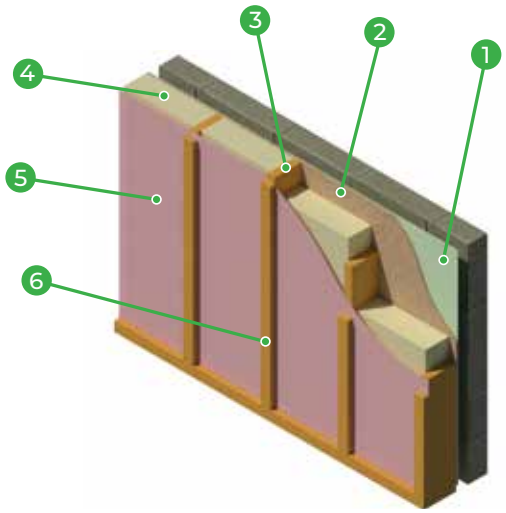
1. Factory fitted 12.5mm Fibreboard
2. 89x38mm CLS timber studs with 100mm acoustic insulation
3. Factory fitted 12.5mm Fibreboard

HYBRID TIMBER FRAME

A hybrid timber frame is a fully factory assembled wall build-up, including breather membrane, insulation, airtightness membrane and service cavities.

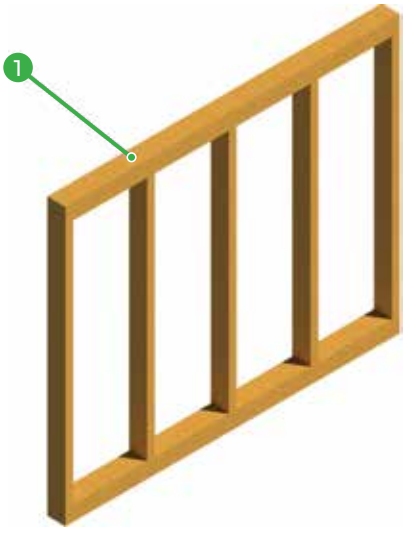
It allows the contractor to complete the first fix M&E before dry lining and ensures the airtightness is completed to a high quality controlled standard.

Internal walls are factory assembled open stud work, which includes any structural sheeting required.



U VALUES AS LOW AS 0.12 ACHIEVABLE

1. Breather Membrane
2. 9mm OSB3 Sheeting
3. 140x38mm CLS Treated Timber Studs
4. Factory Fitted Insulation
5. Factory Fitted VCL
6. Factory fitted 50x35mm service batten

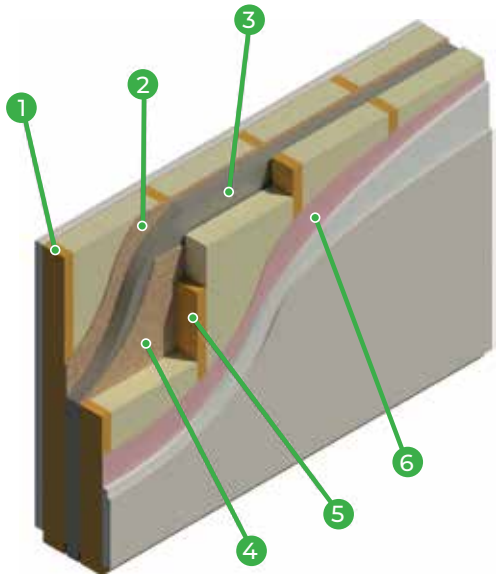


TIMBER FRAME INTERNAL WALL

1. 89x38mm CLS treated timber studs

TIMBER FRAME PARTY WALL

Under the Irish Building Regulations, timber frame party wall panels are required to be fully assembled offsite. Complete with plasterboards, acoustic insulation, full OSB sheathing and service cavities as required, this process saves time and ensures the wall complies with Part B.



TIMBER FRAME PARTY WALL

1. 89x38mm CLS timber stud with 100mm insulation
2. 9mm OSB3 to cavity side
3. 50mm Cavity
4. 9mm OSB3 to cavity side
5. 89x38mm CLS timber stud with 100mm insulation
6. Factory Fitted 15mm Wallboard and 15mm Fireline Plasterboard to both sides
7. Optional factory fitted service batten to both sides

TTFC **CLOSED PANEL TIMBER FRAME** PROCCESS

TTFC closed panel system is at the forefront of innovation in the offsite timber frame industry. In this process, your timber frame arrives to site with a high density internal plasterboard factory fitted to all external and interior walls, a 25mm round PVC conduit factory fitted with socket and switch cut-outs in the plasterboard and exterior windows and doors installed in our factory.

Erected onsite at high speed, the TTFC closed panel system reduces the programme by weeks giving the client one of the fastest and sustainable construction methods on the market today.

STAGE 1

Through the manufacturing process, we assemble the structural frames followed by installing OSB3 sheeting, insulation, airtightness membrane, breather membrane and service batten to external walls.

STAGE 2

External and internal walls are then fitted with wiring conduit followed by high density plasterboard to the face of external walls. Internal walls insulated with acoustic insulation and high density plasterboard to both sides. The board that we use is far superior to standard plasterboard and with suitable fixings can accommodate cupboards and shelves without noggins.

STAGE 3

Electrical layouts are agreed during the design process which locate all sockets and switches for our factory operatives to position the cutouts. This allows first fix electrical to move at a much faster pace on site and reduces on site delays.

STAGE 4

External windows and doors are factory fitted which allows your building to be weather tight at the end of the timber frame erection. It reduces on site lead times, fitting delays and we also ensure airtightness is completed and reveals installed in our quality controlled factory.

STAGE 5

Once installed on site, the TTFC closed panel system dramatically reduces programme times and simplifies first fix trades. Subsequently TTFC can return to install ceiling plasterboard and then finishes can commence.

CLOG NA LÉINN

Location: Collinstown, Co.Westmeath | **System:** Closed Panel

SPECIFICATION

External Wall U-Value: 0.12W/m2K

Windows & Doors: Passive PVC Triple Glazed

Floors: Metal Web Joist with 18mm OSB3 TG2 sheeting

Cladding: Render

One of the first housing schemes to meet the new NZEB requirements, these three & four bedroom houses used our closed panel timber frame system. This A1-rated development is located an hour from Dublin and has specified exhaust heat pumps and photovoltaic panels, which brings the expected cost for heating, hot water and ventilation to less than zero.

It has been a privilege to be part of this forward thinking development with an emphasis on high quality design and finishes throughout.

LANDMARK - DEVELOPMENT

Location: Basildon, Essex, UK | **System:** Closed Panel

SPECIFICATION

External Wall U-Value: 0.12W/m2K

Windows & Doors: Grey PVC Double Glazed

Floors: Engineered Joists with 22mm Egger Chipboard

Cladding: Brick

A beautifully designed collection of two and three storey houses that brought a high level of quality finishes. This scheme of 14 homes is part of a more significant development which has won many awards including 'Best Regeneration' from the Housing Design Awards.

The client requested an enhanced 60-minute fire rating to all loadbearing walls and other structural elements, so TTFC developed our closed panel timber frame system to meet this requirement within our production process, eliminating any delays or additional work carried out on site.

RETIREMENT VILLAGE

Location: Enniscorthy, Co Wexford, Ireland | **System:** Timber Frame

This site of 50 houses and a nursing home was delivered utilising timber frame's main benefit, speed. Our offsite solution delivered four units every week over three months with the nursing home delivered in two phases.

The houses' were designed not only for a high quality finish and aesthetic but for optimal design and construction performance.

The 60-bed nursing home echoed the house design and the 30,000sqft building was delivered on time and within budget. The speed of build for such a large building allowed for quick completion of the internal and external finishes despite the various claddings and building regulations to be met.

TIPPERARY - DEVELOPMENT

Location: Newport, Co. Tipperary, Ireland | **System:** Hybrid Panel

SPECIFICATION

External Wall U-Value: 0.17W/m2K

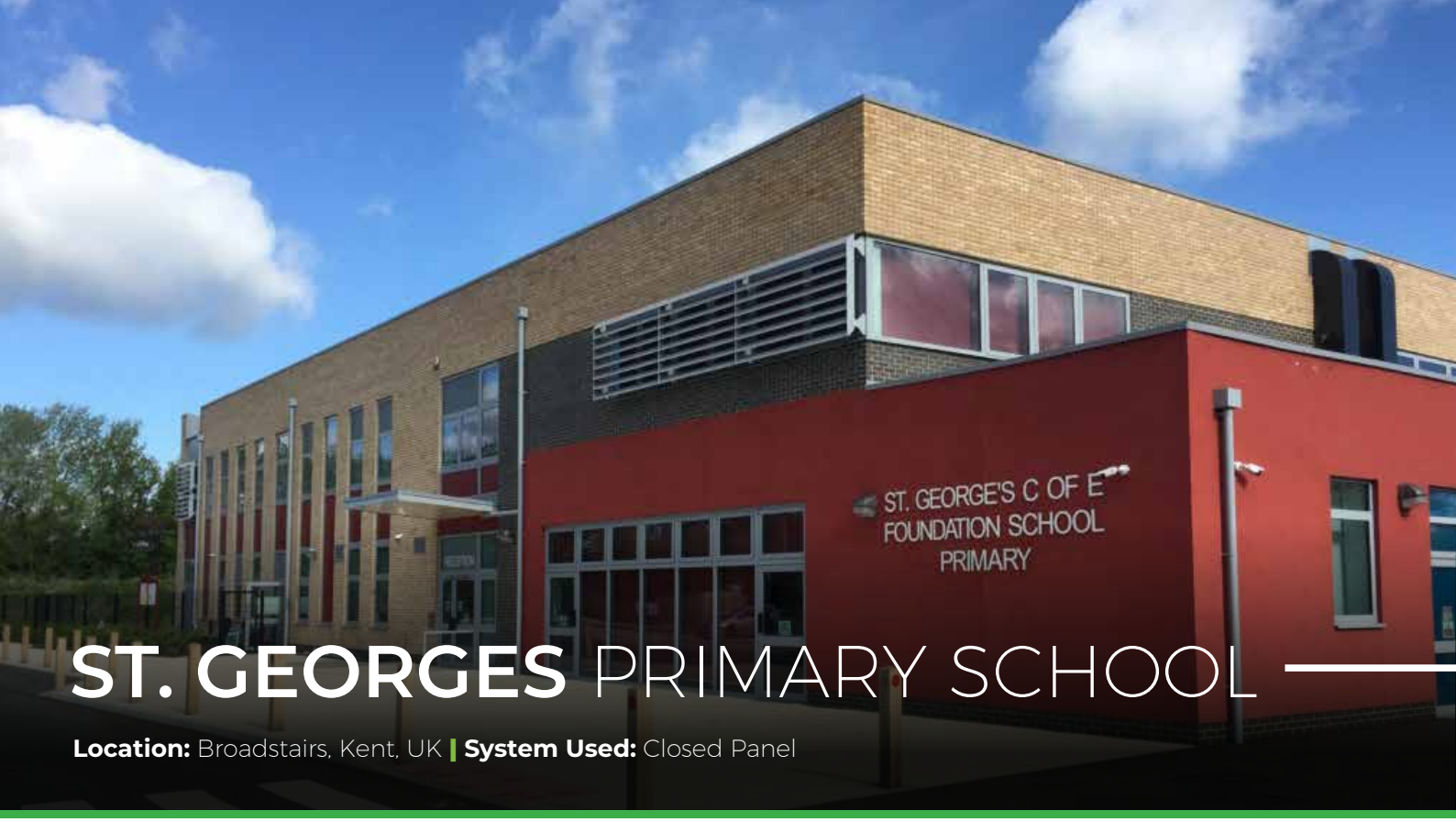
Windows & Doors: Grey PVC Double Glazed

Floors: Solid Timber Joists with 18mm OSB3 TG2 sheeting

Cladding: Brick & Render

A scheme of 14 social houses comprised of two and three-bedroom homes with a high standard of finish internally and externally. The developer used our hybrid timber frame system, which included TTFC completing the airtight VCL to the ceilings. It gave peace of mind to the developer that the airtightness was completed to a high standard and with one contractor.

This two-phase development was completed with a mixture of external finishes to give character and features to the houses.



ST. GEORGES PRIMARY SCHOOL

Location: Broadstairs, Kent, UK | **System Used:** Closed Panel

SPECIFICATION

External Wall U-Value: 0.17W/m2K

Windows & Doors: Aluminium Double Glazed

Floors: Solid Timber Joists with 18mm OSB3 TG2 sheeting

Cladding: Brick & Render

A new build school completed over two phases with Baxall Construction using our closed panel timber frame system. It is estimated that delivering a successful timber frame structure would result in a 12 week saving on the overall programme versus traditional build.

TTFC delivered a range of internal walls that had to meet 60-minute fire rating and a high performing acoustic level.

This completion of the school was delivered ahead of schedule and to a very high-quality standard.

PINEWOOD HOUSE

Location: Surrey, UK | **System Used:** Closed Panel

SPECIFICATION

External Wall U-Value: 0.21W/m2K

Windows & Doors: Aluminium Double Glazed

Floors: Metal Web Timber Joists with 18mm OSB3 TG2 sheeting

Cladding: Brick

This three-storey apartment block consisted of retail units and 12 high-quality apartments. One of many apartment blocks completed by TTFC, this project utilised our closed panel timber frame system. It allowed the walls to be fire-rated before leaving the factory, with all load-bearing walls meeting a 60-minute fire rating.

TTFC also designed within the timber frame a structural support for cantilevering balconies, giving a flawless finish without any structural external posts. TTFC also completed the full engineering, design and installation of the structural steel to provide an underpass to the car park at the rear of the apartments.

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