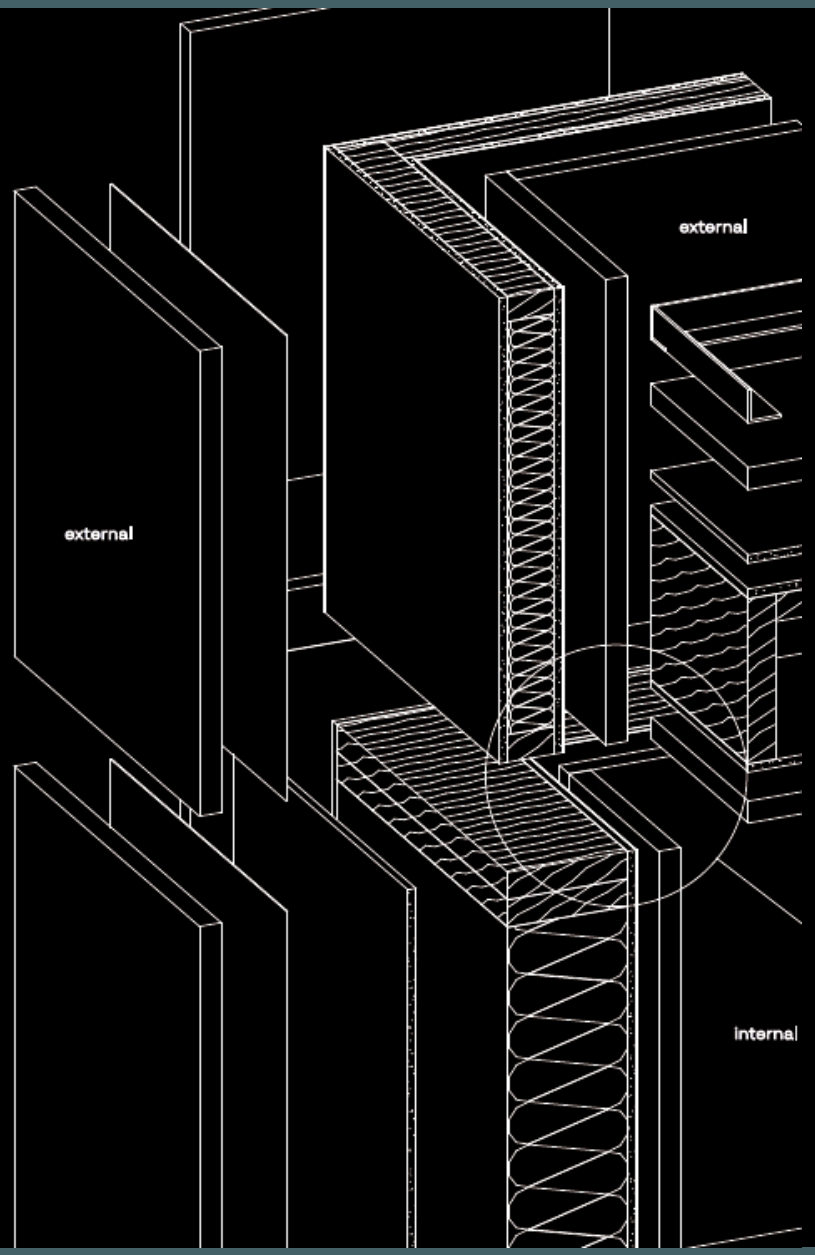
OS KOP

OPEN SOURCE FRAMEWORK

KIT OF PARTS



Expertise

STRATA









COST MANAGEMENT

- Feasibility studies and order of cost estimates
- Cost planning and value engineering
- Cost control, project monitoring and reporting
- Benchmarking and KPI analysis
- Procurement and package strategies
- Contract administration and risk management
- Budget structuring and forecasting
- Invoice protocols and capital call management
- FF&E coordination

PROJECT MANAGEMENT

- Brief management
- Stakeholder reporting and presentations
- Delivery strategies
- Programming
- Project controls
- PMO management
- Contract administration
- Employer's agent services
- Coordination and management of loose FF&E
- End-to-end project management from concept to completion

TECHNICAL DUE DILIGENCE

- Pre-acquisition review
- Peer reviews
- Project status audit
- Project monitoring
- Procurement reviews
- Benchmarking

STRATEGIC ADVISORY

- Strategic advice and market entry strategy for developers, manufacturers and investors
- Market research and insights on modern construction methods and technologies
- Digitisation and process improvement strategies
- Pre-manufactured value optimisation and manufacturing advisory

OSKOP

What is Open Source Kit of Parts

OSKOP is a **free, open-source product book** that demonstrates a repeatable approach for timber-frame construction.

OSKOP employs a **platform approach** in which knowledge, design, and test data are reusable, allowing lessons from each project to improve the next.

With the aim of enabling local supply chains and SMEs to **efficiently** deliver buildings that are **fire-safe** and contain **low embodied carbon**.

Social Value in every Postcode.

OSKOP is only delivered via the UK timber frame and panelised construction Sector.

Gross Value Added (GVA)

Leakage: In construction, every £1 spent locally generates a substantial ripple effect in national GDP. Importing the main system means the high-value manufacturing Phase, where raw material is turned into a high-value asset—happens outside the UK economy, permanently losing that GVA.

The "Multiplier Effect" Loss: In local construction, a UK factory or contractor buys local materials, pays local taxes, and employs local workers who spend their wages in the UK economy.

OSKOP

Our UK Timber and Off-site Suppliers

McVeigh OFFSITE LTD

HARMONY TIMBER UK

Pinewood Structures

TG ESCAPES

DG Timber Solutions
Design. Manufacture. Construct.

TIMBER INNOVATIONS

EXCEL GROUP

novo timber
sustainable timber solutions

OEP

Since 1967
Crendon
TIMBER ENGINEERING

TARGET TIMBER SYSTEMS

PROGRESSIVE OFF-SITE

One open platform, balanced interests

STRATA

Aligning the factory and the main contractor through OSKOP



What the Factory needs

- pipeline and overhead cover

What Main Contractor needs

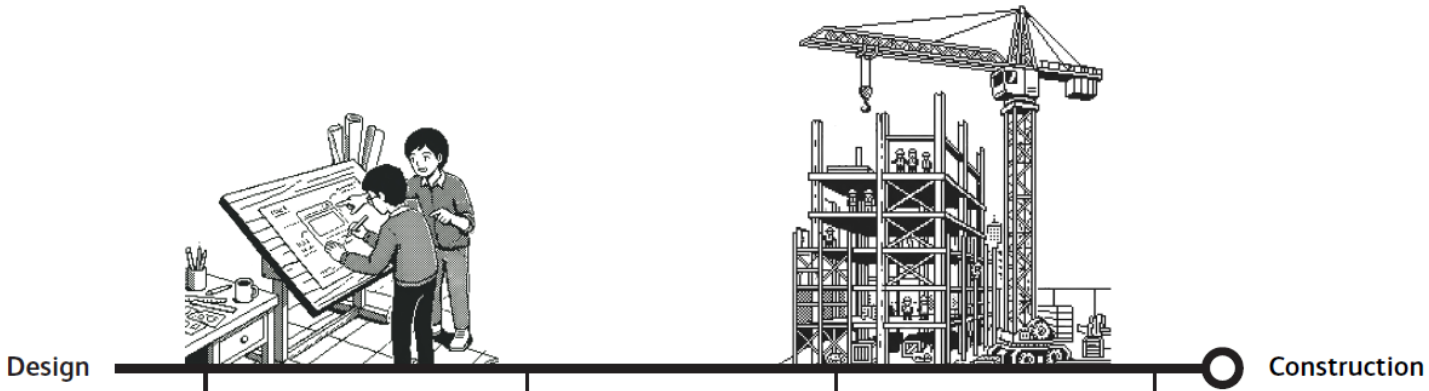
- Secure, repeatable pipeline
- Reliable margin and cash, at low risk
- Progress to the next tranche of work

What OSKOP brings

- Standardisation and a clear ‘what good looks like’
- Free to all, no supplier lock-in
- Do no harm, avoid legacy, keep it simple

OSKOP

The challenges facing the delivery of schools



Reinventing the wheel
Most projects start from scratch despite delivering similar building methods repeatedly.

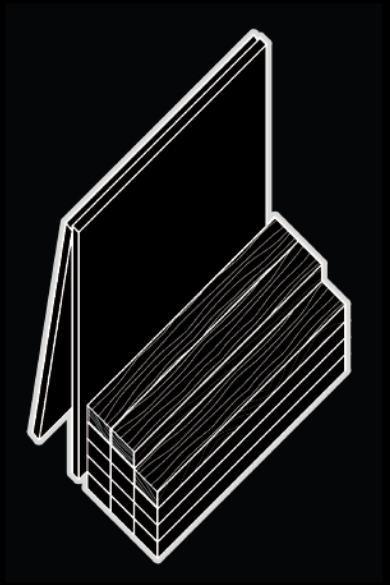
Skills shortages
Particularly in site-based trades

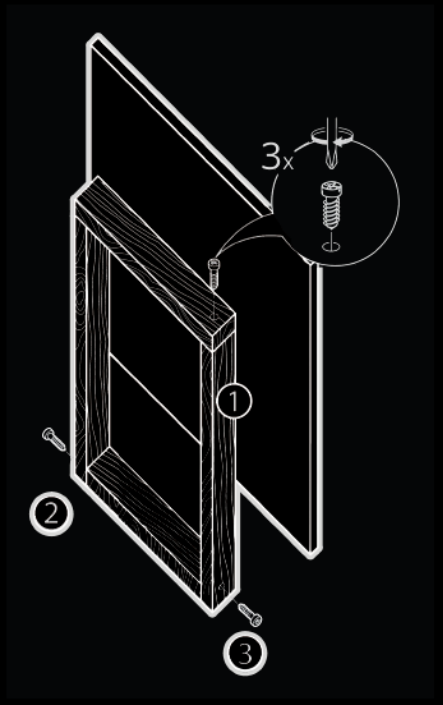
Cost volatility
Materials, labour, and programme risks continue to escalate, especially LGSF

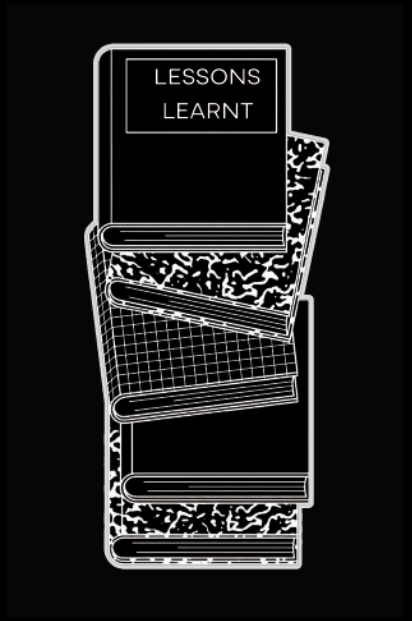
Inconsistent quality
Outcomes vary between projects

OSKOP

Platforms: A Better Way to Deliver







Standardised components and systems

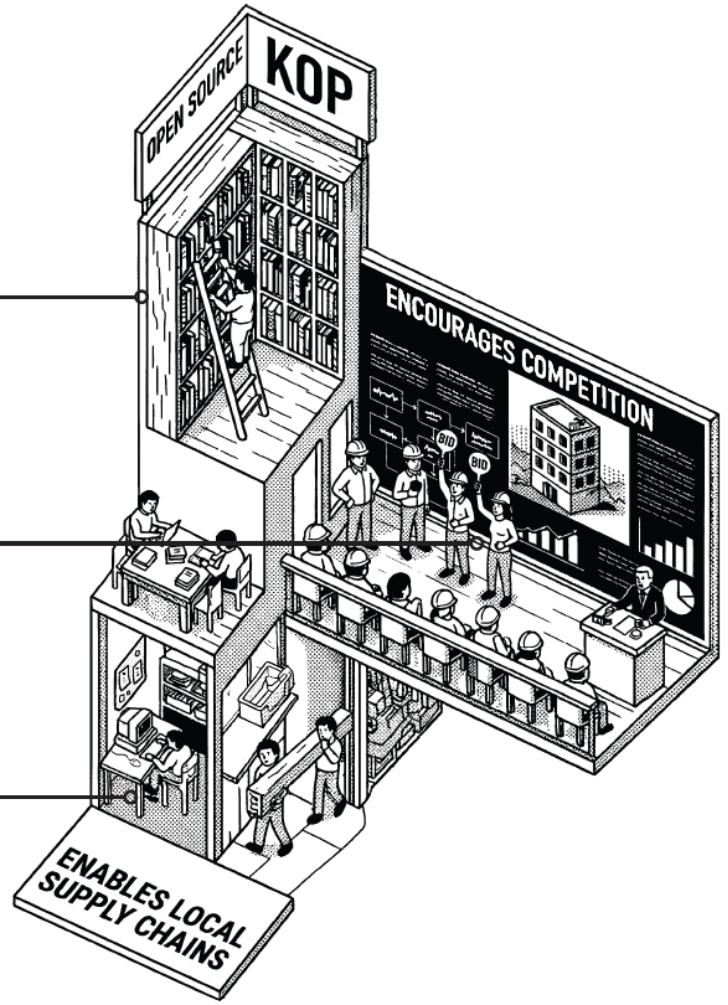
Repeatable design and construction

Continuous learning and improvement

OSKOP

Why Open Source?

- OSKOP's industry professional and suppliers have developed a kit of parts for anyone to use. This approach reduces risk by sharing and standardising knowledge.
- Provides access to small-scale UK manufacturers and encourages healthy competition within the sector, by allowing anyone to use the system.
- Enabling local supply chains to work on complex public section projects by reducing the complexity of designing and building a compliant building.



OSKOP

Validating Performance - DfE 2025 Framework

- The approach reflects a shift toward **standardised platform-based school delivery.**
- **Standardisation improves constructability,** enabling repeatable delivery models and reducing design uncertainty.
- Some aspects of the building strategy may increase material use and embodied carbon.
- The framework supports a stable pipeline of projects, but procurement still requires multiple teams to **duplicate effort on largely standardised designs**.



CF25 DFE MMC Fire Safety Requirements — Schools & Colleges (Section 9.2)

Fire Safety Strategy

- Multiple measures required — no single solution
- MMC interdependencies mean one failure risks several layers
- Voids behind linings are the primary fire risk

Insulation

- External walls, floors & roofs: Class A1 minimum
- Lower-rated insulation in warm/inverted roofs must be fully encapsulated

Load-Bearing Structure

- Fire resistance proven by specific testing
- Sole reliance on non-load-bearing wall data not permitted
- Floors must address fire from above and below

Compartmentation & Cavities

- Fire/smoke spread in inter-module voids must be mitigated
- Cannot rely solely on internal room linings
- Cavity barriers per AD B Vol. 2; not a substitute for compartmentation

Fire-Stopping & Openings

- All penetrations fire-stopped with proprietary products
- Openings in facades must not compromise fire resistance
- Products evidenced for specific build-up and tested to EN standards

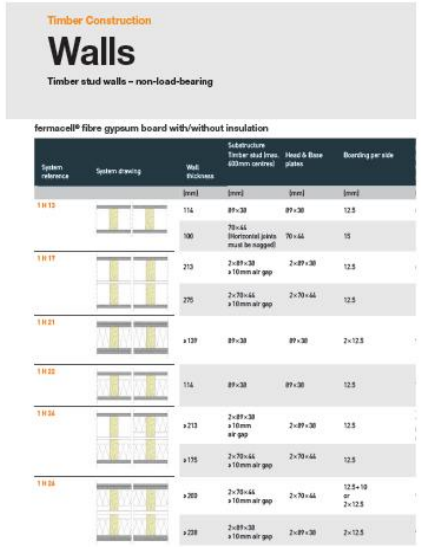
Compliance & Handover

- Evidence required: design, product, installation, O&M
- Fire Safety Strategy Report, Record Photographs & Protection Schedule
- Planned Maintenance Plan and Fire Safety Manual at handover

For client overview purposes only. Full compliance requirements detailed in section 9.2.

OSKOP

Enabling Design Compliance



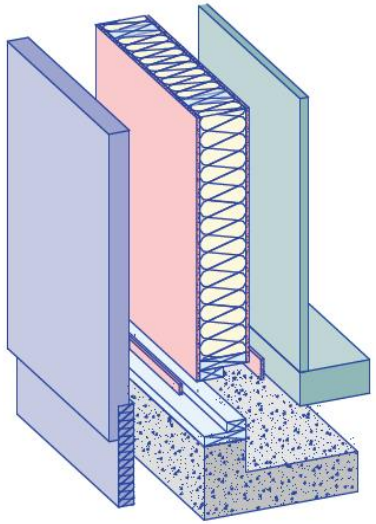
Timber Construction

Walls

Timber stud walls – non-load-bearing

fermacell® fibre gypsum board with/without insulation

System reference	System drawing	Wall thickness	Substructure Timber stud brces. (600mm centres)	Head & Base plates	Boarding per side
		(mm)	(mm)	(mm)	(mm)
1 H 13		114	89×38	89×38	12.5
		100	70×44 (Horizontal joints must be nogged)	70×44	15
1 H 17		213	2×89×38 ≥ 10mm air gap	2×89×38	12.5
		275	2×70×44 ≥ 10mm air gap	2×70×44	12.5
1 H 21		≥ 139	89×38	89×38	2×12.5
1 H 22		114	89×38	89×38	12.5
1 H 24		≥ 213	2×89×38 ≥ 10mm air gap	2×89×38	12.5
		≥ 175	2×70×44 ≥ 10mm air gap	2×70×44	12.5
1 H 26		≥ 269	2×70×44 ≥ 10mm air gap	2×70×44	12.5 + 10 or 2×12.5
		≥ 238	2×89×38 ≥ 10mm air gap	2×89×38	2×12.5





Readily Available Test Data

Standardised Rules

Confidence in the constructed product

OSKOP

Empowering SMEs & Local Supply Chains

- There are clear rules and routes to compliance
- Designs are repeatable and simple to construct
- Components are standardised and readily available locally
- Compatible with offsite or traditional assembly





Carbon Reduction as the Driver for Timber Adoption

Takeaway: DfE's interest in timber is strongly linked to embodied carbon reduction and net-zero objectives.
DfE frameworks now require **embodied carbon reporting**, **lower-carbon construction methodologies**, and **net-zero alignment, 2028 and 2030 targets make the move to timber critical**.
GenZero promotes **timber construction** as a route to reducing embodied carbon and enabling net-zero schools.
Timber-based MMC supports **productivity, sustainability and compliance** within DfE's evolving technical standards.
Supported statement: *"DfE's increasing interest in timber and factory-manufactured systems is closely linked to embodied carbon reduction, net-zero objectives and improved productivity."*

While past numbers are difficult to capture DfE estimates **400–500 timber-frame and SIPs MMC schools have been delivered since 2015.**

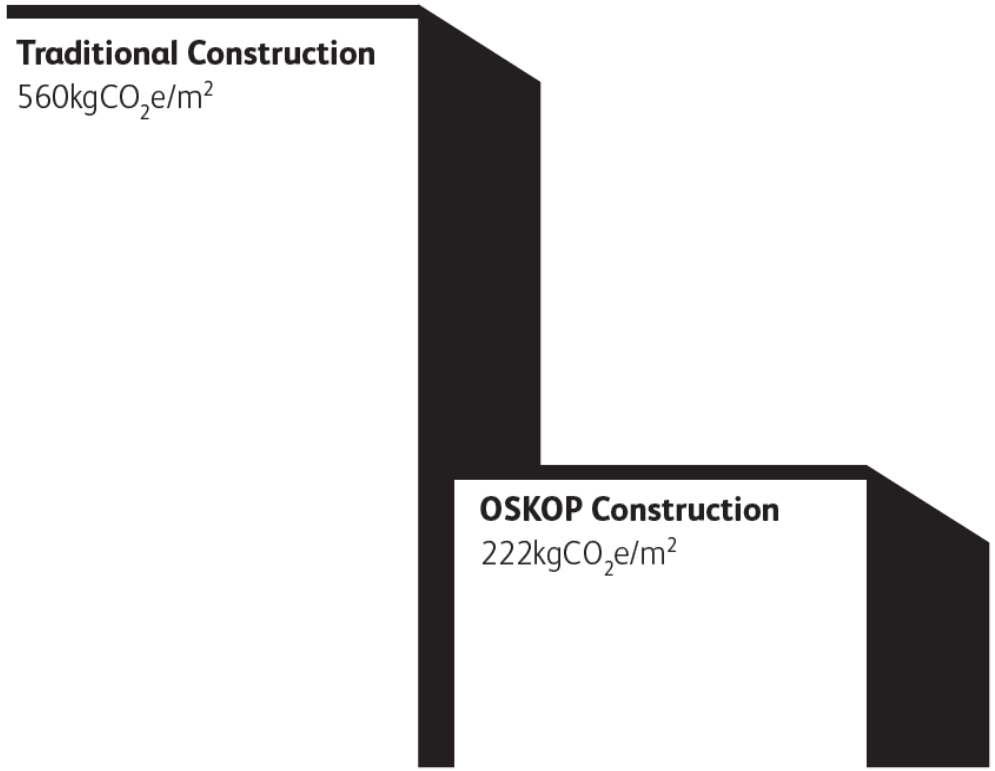
The DFE are commissioning Technical Advice on Fire and Structural Performance of 2D Panelised Construction **, looking a closed panels, CLT and SIPs**



OSKOP

Decarbonising the Superstructure

Comparative Analysis: Greatfields Primary School





Case Study Embodied Carbon

- A school project delivered through OSKOP
- Achieved:
  - **222 $kgCO_2e/m^2$** superstructure
  - Target for 2030 = **395 $kgCO_2e/m^2$** → 12 years ahead
  - Traditional steel frame comparison: **560 $kgCO_2e/m^2$**
- Compliance: **Building Safety Act fully met**
- Achieved **without cost uplift**.

Full report available or superstructure summary.



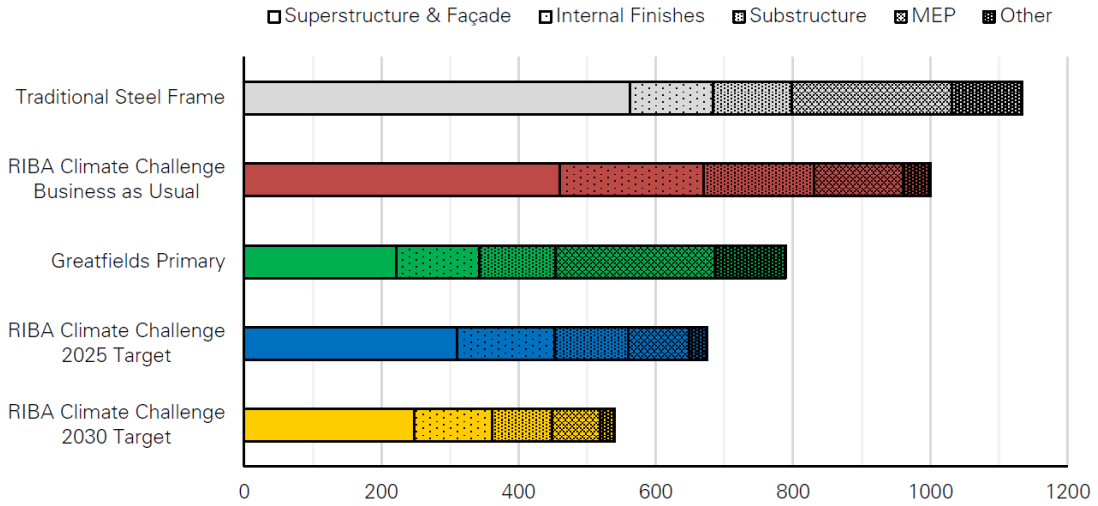


Figure 13. Greatfields Primary School building only embodied carbon per element against indicative industry benchmarks.

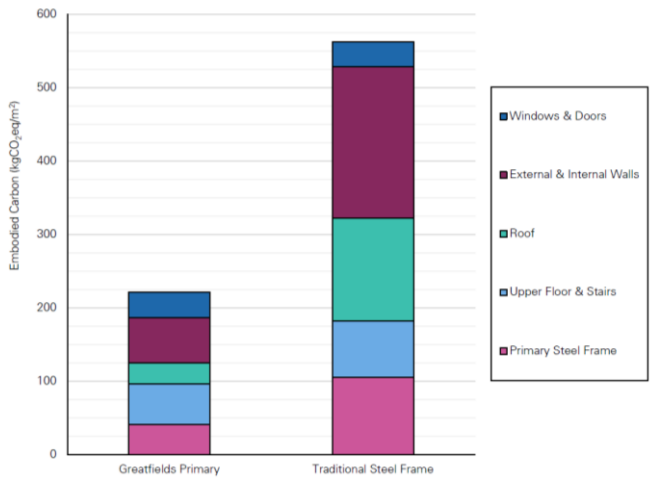


Figure 14. Greatfields Primary School modelled superstructure embodied carbon impact compared against modelled superstructure embodied carbon impact for typical steel framed structural solution.

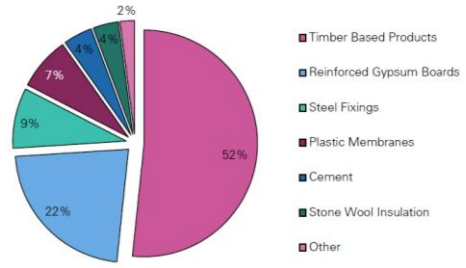
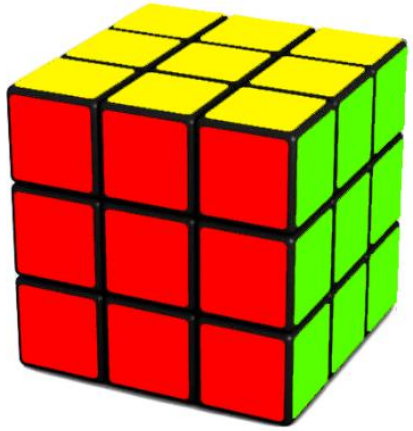
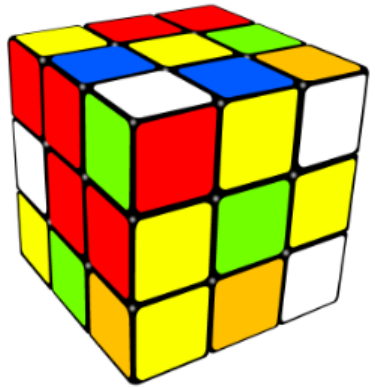


Figure 15. Embodied carbon impact of OSKOP panels (NZP) according to material type.







“Rubik’s Paradox” unintended compromise for the built environment.

Imagine compliance is like the completed face of each color;
Red … Fire
Blue… Thermal and air perm
Yellow… Robustness
Green… Carbon
White… Acoustics
Orange… Structure

Building safety act, or Climate force you to change;
Do you understand the consequences of change?
What can you trade?



DfE's Shift Toward MMC & Platform Approaches

Takeaway: Over the last decade, DfE has progressively embedded MMC, standardisation and platform-based delivery into school construction.

DfE has moved from traditional construction toward **standardised, offsite and platform-led delivery models**.

The **£3bn MMC1 Framework (2020/21)** centred on standardised school designs and offsite manufacturing.

The **GenZero Schools programme** advanced platform Design for Manufacture and Assembly (P-DfMA) using kit-of-parts components.

Current DfE design guidance reinforces
standardisation,
embodied carbon reporting
factory-manufactured solutions.

Supported statement:

"Over the last decade, DfE has increasingly adopted MMC, standardisation and platform-based construction methods for new school delivery."

Healthcare, Prisons and other Government departments Are following suit.



Timber-Based Panelised Systems as a Key MMC Solution

Takeaway: Timber closed-panel systems have become a major MMC pathway, but SIPs combustible insulation and Lamination is effectively banning its use..

GenZero research explicitly explored **timber-based, kit-of-parts school solutions** using prefabricated panels.

Industry documentation shows **closed-panel timber systems** as the prevailing low-carbon MMC option for schools, but DFE have said they do not want “Open Panel”.

DfE discussions differentiate clearly between **timber closed-panel**, **CLT and SIPs, but they are moving away from volumetric modular with the demolition of schools built by Caledonian and ESS Modular.**

Supported statement: *“A large proportion of DfE’s panelised school construction has utilised timber-based closed-panel systems, although a range of MMC technologies have also been used.”*



2028 LGSF will struggle
To stack, embodied
Carbon will make it
Difficult to use, MEP is
Also driving up Embodied
Carbon.

CF25 moving to single story
Primary and SEND
Demand, ideal for
Close panel construction.

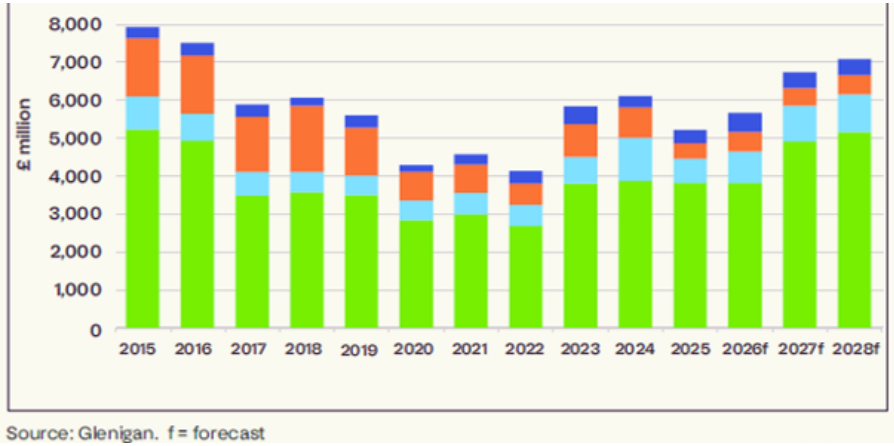
Direction of travel with Education and Healthcare

- School building construction will grow **20% in 2027,** according to the latest Glenigan Construction Forecast.
- This follows an 8% increase in 2026, education is one of the most resilient and fast-growing sectors within the UK construction industry.
- **The Education Estates Strategy:** Backed by a **£38 billion** capital investment plan spanning 2030.
- **Specialist & Early Years Expansion:** Funding includes **£3.7 billion** designated for creating 60,000 specialist Special Educational Needs and Disabilities (SEND) places.
- Also **£400 million** dedicated to expanding early years nursery places within existing school layouts

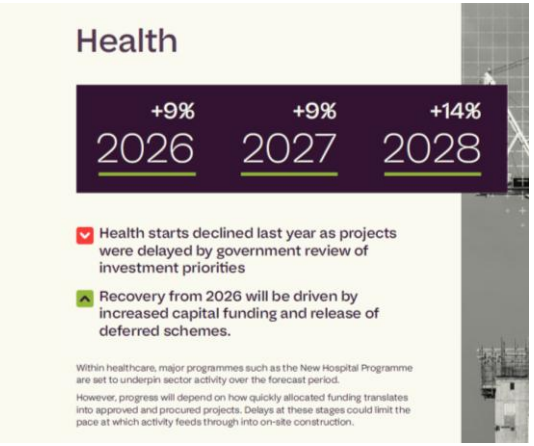
The last two will include mostly single story, and ideal for Timber Frame construction.



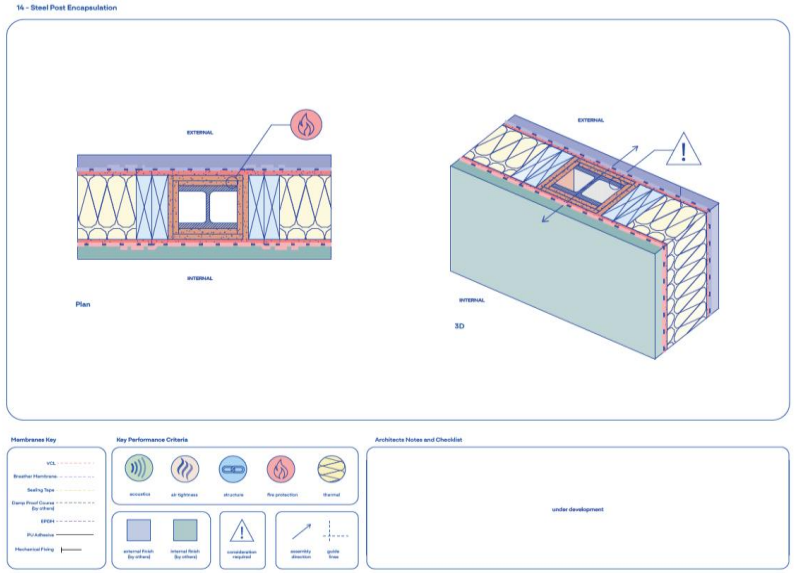




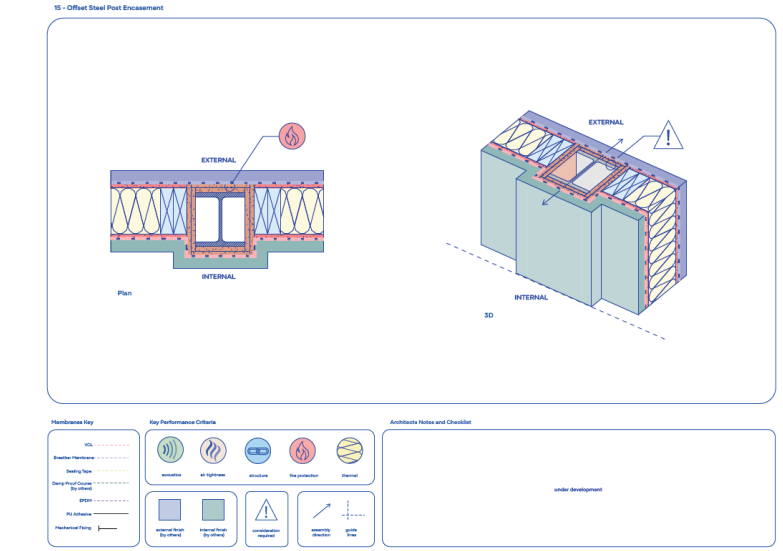
Source: Glenigan. f = forecast



“We don’t need to this, we can get away with out doing this? ##FF”



haverstock



haverstock

Tenmat ventilated cavity fire barriers

Independent, accredited third-party testing of active intumescent components

60 **year working life**

All grades of active intumescent components

Verified by independent, accredited third-party testing

Working life vs typical market products

Tenmat — 60 yrs

Market range — 10–25 yrs

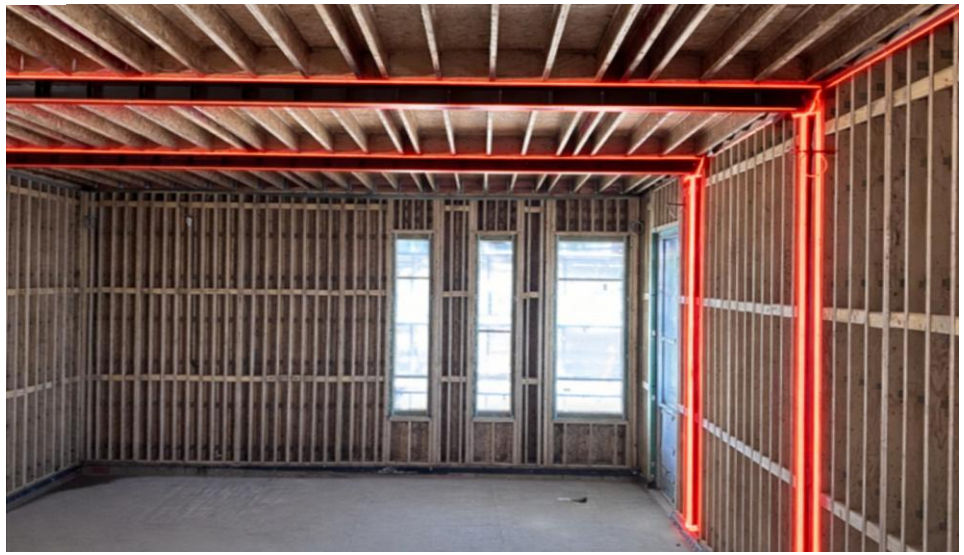
Typical competitor products on the market

Third-party IFC certification

Certified for fire resistance performance

Tested against the OSKOP wall build-up







Last week a main contractor required the following data for compliance.

Strategic and commercial
Evidence that the local supply chain and social value model works
The case for OSKOP over a solution we could develop in-house
Demonstrated suitability for schools and public sector buildings
Carbon and whole-life performance
A breakdown of the 222 $kgCO_2e/m^2$ figure, reconciled with the wider report
Confirmation of the calculation method used: DfE or RICS
Benchmarking normalised to our current platform assumptions.
Components with independently verified EPDs
Structural principles
Assessed impact on GIFA and planning efficiency compared with thinner LGSF
Structural engineers able to design to the system
Maximum heights and spans
PCC floor details and testing
What "consideration required" means where steelwork is shown
Masonry load capacity and a masonry support angle solution
Fire test data for steel elements, inside the panel, passing through the panel and abutted to the panel, also Glulam, and encasement and encapsulation of elements not in the panel.

Fire, testing and compliance

Current regulatory approvals, assessments and test evidence

Fire test evidence that includes cavity barriers, breather membranes, VCLs with the OSKOP sysrem

Full wall build-up tests, for LB walls 4 meters, and then walls up to 8 meters

Inside-to-outside and outside-to-inside test results for loadbearing elements.

The approach to stair and lift cores and their interfaces

Demonstrated CF25 compliance, including TM 2.5: Class B-s1, d0 or better for all external wall elements under 18 m, with insulation at Class A1

Building physics

How moisture is managed within the OSKOP wall build-up

Testing that validates this approach

Architecture and detailing

How the system meets the CF25 requirement on structural elements

The impact on carbon, area efficiency and test evidence if frame dimensions need to increase

Fire rated doors tested with the system

Builders' work and penetration details developed with manufacturers, Quelfire, Trox, with supporting test evidence

Acoustics and MEP

Acoustician approval for the lightweight floor in primary, secondary and SEND schools

TM 3.3 Table 10 (C06) on exposed soffits, and the effect on acoustic performance, thermal mass and overheating strategy

MEP distribution, suspended services and future fixings, particularly for fire, where compartment floor under CF25

Constructability and future adaptability

Whether internal walls are site assembled, insulated and boarded in situ

How future alterations are accommodated where wall elements are embedded in screeds and concrete

The rationale for recessed plasterboard and timber details, given durability and flood recovery concerns

OSKOP
Benefits for Stakeholders



Clients (DfE)
- Faster school delivery
- Greater cost certainty
- Improved quality and safety
- Long-term programme efficiency

Contractors
- Reduced design risk
- Predictable programmes
- Simplified procurement

Manufactures
- Repeatable demand
- Standardised products
- Ability to scale production

Architects
- Focus on design quality
- Single point of design information
- Access to validated systems
- Faster design process

OSKOP

Opportunities



Constant Improvements



Low Carbon Solution



Robust Fire Test Data



Routes to Compliance



Greater Value for Money


OS KOP
OPEN SOURCE FRAMEWORK
KIT OF PARTS
McAleer & Rushe
OSKOP
OSKOP
OSKOP
OSKOP
OSKOP