Manor Abbey SEMH School
Bucknall, Stoke-on-Trent

Completed 2023

In partnership with Tilbury Douglas, OSKOP alliance partner Timber Innovations has designed, manufactured and installed the closed panel-hybrid super-structure package for Manor Abbey SEMH (Social, Emotional & Mental Health) School on the former Abbey Hill School site in Greasley Road, Bucknall, Stoke-on-Trent.

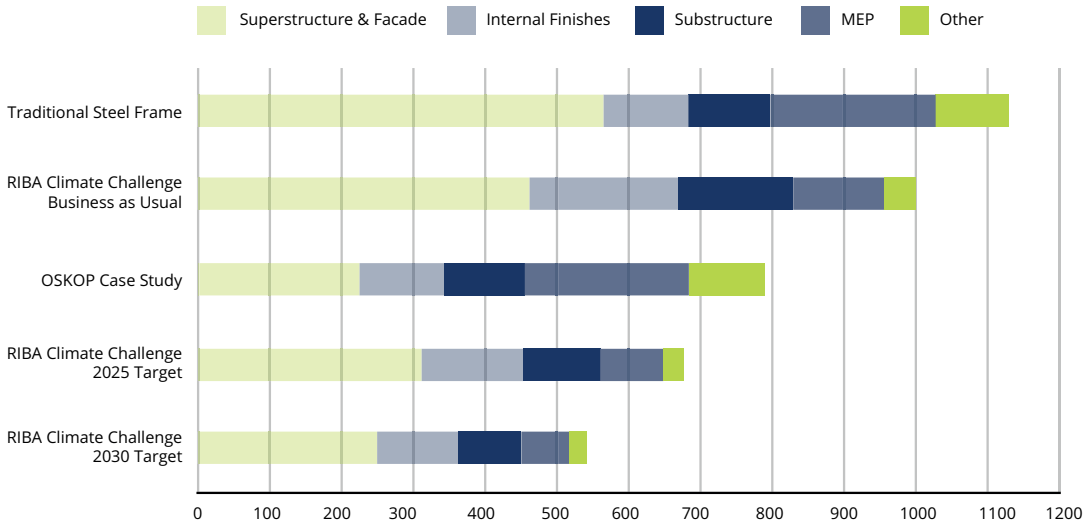
OSKOP the Open Source Kit of Parts was created to rationalise and improve modern school construction, providing an open guide that prioritises quality, fire safety, efficiency and sustainability while fostering transparency and collaboration. Many schools have already been delivered with the OSKOP framework, but Tilbury Douglas was the first tier one main contractor to apply it on a Department of Education (DfE) scheme, brought from concept to completion by Timber Innovations.

Project Highlights

- **Client & operator:** Manor Hall Academy Trust
- **Capacity:** 70 pupils, aged 11–16
- **Specialism:** SEMH provision with additional secondary needs support
- **Construction approach:** Industrialised "kit of parts" using OSKOP's open test data, delivered by Timber Innovations
- **Zero carbon ambition:** Significant embodied carbon savings, based on OSKOP's Spring 2025 embodied carbon study

Pre cast concrete floors

Embodied Carbon Performance Research



OSKOP Case Study only embodied carbon per element against indicative industry benchmarks.

OSKOP, based on Timber Frame internal and external wall, PCC floor, PCC stairs and timber cassette roof build up.

The DfE has set a 2030 benchmark of 395 kg CO^2e/m^2, OSKOP has solutions to achieve this performance level now, independent report available upon request.

Internal - factory applied airtightness

Compliance & Materials

- Fire: Non combustible insulation; A1/A2 rated boards
- Structure: Hybrid frame with hot rolled steel and precast concrete planks
- Testing: Independent verification of fire, acoustic, structural and thermal performance
- Traceability: Design emphasises transparency, future adaptability and material traceability

OSKOP in Context

Created to meet the practical needs of the education sector, OSKOP balances performance, affordability and sustainability without locking clients into a single supplier or proprietary IP. Timber Innovations, part of the Wyckham Blackwell Group, operates five regional Timber Frame companies and is uniquely positioned to deliver OSKOP solutions nationwide.

Timber Innovations is committed to open collaboration as a path to create true Industrialised Construction and expand the use of manufactured components, increasing pre-manufactured value (PMV). Because OSKOP is freely available, OSKOP partners and contractors alike can adopt its test data for walls, floors and roof details. This creates a new platform allowing competitive tender based on service, price, capacity and experience.

Research collaboration

OSKOP is collaborating with many organisations such as Cambridge University on WOODCIRCLES, exploring genuine end of life options for structural timber instead of defaulting to energy from waste.

OSKOP offers a proven, open source pathway to safer, lower carbon and cost effective public buildings, demonstrated here in Bucknall and already scaling nationwide. It maintains clear accountability and compliance, without tying clients and design teams to proprietary IP, and supports the construction industry's shift toward more industrialised, resilient delivery.

Typical MMC Risk	OSKOP Response
Proprietary system = single point of failure	Multiple companies/factories can supply identical, tested assemblies
Incomplete or "similar to" test data	Third party fire, acoustic, structural & thermal reports are published
Late fire engineering changes	Fire tested details embedded from day one
Long, imported supply chains	UK based local panel plants → shorter lead times & lower carbon
Vague ESG claims	Transparent embodied carbon data and circular economy roadmap, with real end of life solutions
Limited R&D Budget	Network of collaborative partners committed to further Research, Development and Testing

OS KOP
OPEN SOURCE FRAMEWORK
KIT OF PARTS

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