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SYSTEM APPROVAL

Saint Gobain OSS Intrastack

**INTRA
STACK**


SAINT-GOBAIN

Certificate Ref.: SG0823

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Saint Gobain OSS Intrastack

Saint-Gobain Construction Products UK Limited

Company Registration No: 00734396

Registered Office: Saint-Gobain House, East Leake, Loughborough, LE12 6JU

Approval Date: 09 August 2023

Product/System Name:

Saint Gobain Intrastack Low-Rise Housing (ILRH)

Summary:

The ILRH consists of 7 key elements when delivered to the construction site, these are outlined below:

- ILRH – External wall panels [70x60mm C section studs (S390) at 600mm ctrs, 74x74mm U section tracks (S390) at head and base, 12.5mm British Gypsum Glasroc X external sheathing board].
- Internal loadbearing walls [70x60mm C section studs (S390) at 600mm ctrs, 74x74mm U section tracks (S390) at head and base].
- Separating walls between units [70x60mm C section studs (S390) at 600mm ctrs, 74x74mm U section tracks (S390) at head and base, Cavity to satisfy robust detail E-WS-1, 70x60mm C section studs (S390) at 600mm ctrs, 74x74mm U section tracks (S390) at head and base].
- Floor Cassettes [15mm OSB3 or 22mm P5 Chipboard, 200x70 C section joists @ 600mm ctrs, 204x70 U section tracks at bearing ends].
- Gable Panels [70x60 C section studs (S390) at 600mm ctrs, 74x74mm U section tracks (S390) at head and base, 12.5mm British Gypsum Glasroc X external sheathing board].
- Spandrel Panels (separating walls) – designed and supplied by others. [2No Type A 12.5mm plasterboards or 15mm Fermacell, 72x47mm TR26 studs, 2No Type A 12.5mm plasterboards or 15mm Fermacell].
- Roofing Solutions [Truss rafters, Roof Cassette Systems]. (outwith the scope of this certification).

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Conditions of Approval:

- Saint Gobain to notify Checkmate as to any changes in the construction details. Checkmate will then review changes and advise if acceptable.
- All third party certificates provided as part of this approval must remain valid.
- All materials to be installed in accordance with third party accreditation details.
- Limited for use on dwellings up to 3 storeys or up to 11m in height (measured in accordance with the relevant Building Regulations).
- Structural Engineers design certificate/calculation pack required for each development registered with Checkmate for LDI cover.
- Evidence of sufficient Professional Indemnity Insurance to be provided for design team.
- Any changes in the architect's and / or engineer's construction details and/ or principles are to be approved by Checkmate.
- Upon delivery of the panels each unit is physically labelled with an individual identification number which correlates with the Intrastack design information and allows full traceability of materials, labour and factory QA procedures.
- Provide QA system reports if and when requested by Checkmate for individual projects.
- Provide full details of Saint Gobain's contractual responsibilities for each development registered with Checkmate. (eg doors/windows, foundation design, SIR, external wall finish, roof structure and covering etc.).
- Any additional factories that are to be utilised to produce Saint Gobain OSS I panel systems will need to have gone through a full factory audit from Checkmate with written approval provided prior to commencing any manufacturing.

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Full Product Details:

The Saint-Gobain OSS Intrastack Low-Rise Housing system (ILRH) is a light-gauge steel frame (LGSF) panelised superstructure system that has been developed to service the low-rise housing market, offering a non-combustible alternative to timber frame construction.

The system consists of external/internal loadbearing wall and floor cassette panels manufactured in a factory environment using C and U section cold rolled steel members, assembled using self-drilling tek screws and rivets. The studs and joists are swaged at the ends to ensure a flash face for fixing of finishes.

The external walls have a non-combustible sheathing board pre-fitted to the external face, ready to accept breather membrane, non-combustible insulation and cladding support systems supplied and fitted by the main contractor. The internal face of the system is then finished, on-site with insulation within the studs, a vapour control layer, and plasterboard, completing a non-combustible through-wall solution.

The internal walls are supplied as open panel LGSF, ready to accept required acoustic insulation and plasterboard, supplied and installed by the main contractor.

The floor cassettes are pre-fitted with P5 chipboard or OSB3 structural decking to form intermediate floor solutions that are hung from the loadbearing walls below on joist hanging angles. The system can accept a variety of external façade systems such as traditional masonry, lightweight render, and rainscreen cladding. The external façade design falls outside the Saint-Gobain design responsibility, however standard interface details have been developed as part of the Technical Manual in order to support best practice design of these key interfaces. The ILRH system is designed to interface traditionally with truss rafter roofs and other roof options. Intrastack will design, manufacture and install (optional) the system as a turnkey superstructure solution.

Certificate Ref.: SG0823

Site Specific Checks/Requirements:

- Each development must provide full details of proposed Engineers foundation detail (including Site Investigation Report), substructure/ground floor, external wall finish and roof structure/covering.
- Checkmate to be provided with full set of design and setting out drawings for each registered development.
- Panels should be fixed together vertically with self-drilling tek screws to suit the project specific design information typically max 600mm ctrs.
- The panels should be installed to suit tolerances noted below:
 - Plumb of Stud vertically = + / - 5mm across each story height may + / - 10mm across overall height.
 - Line of Panels = + / - 5mm across a 10m length
 - Length of unit = + / - 10mm across length of plot or block

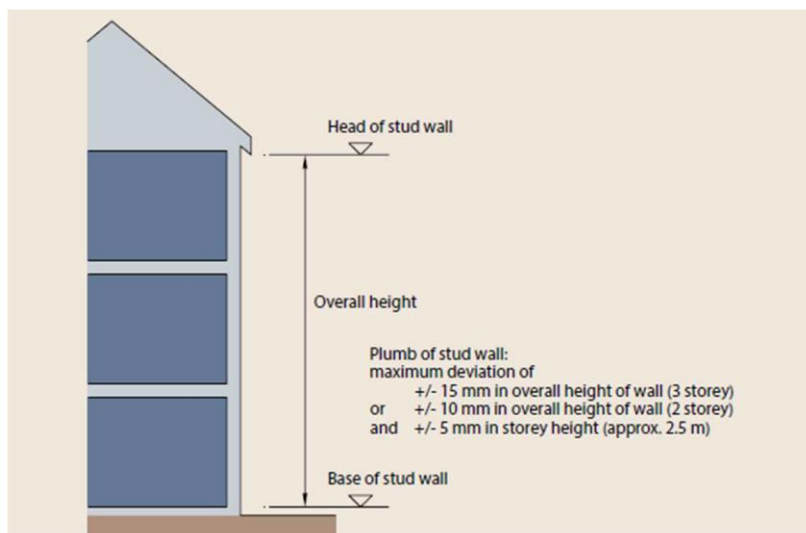


Image from SCI publication P402

- In the absence of the 1st floor cassettes the ground floor panels will require temporary lateral restraint this is typically achieved via the use of diagonal bracing fixed from the inner face of the panels to the substructure.
- Typical design should be produced by Intrastack engineer to cover all generic instances for temporary works purposes.

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- **Floor Cassettes:** Following the successful installation of the ground floor panels the floors cassette panels are delivered to site to suit the install program. Prior to installing floor cassettes any air tightness VCL laps required to suit the Intrastack standard details should be installed to the head of the LGSF walls. Floor cassette support angles should then be fitted to loadbearing walls to retain the floor cassettes during installation. The angles are typically fixed to the head of loadbearing walls and fixed with selfdrillingtek screws or bolts to suit the project specific design. Prior to the installation of floor cassettes any beams and stair trimmed are landing and located to suit the Intrastack designs and fix in accordance with the project design. Once all support rails and beams are fitted, the floor cassettes can be craned in to position to suit the pre-determined installation sequence. The cassettes are landed onto the support rails and fixed directly to the vertical studs within the loadbearing walls with self-drilling tek screws to suit the Intrastack design. Typically, the floor cassettes are all fitted from the below via small hop up on the ground floor slab. The floors cassettes should be installed to ensure the level at the top of the decking does not vary by more than 5mm across a 2m length. Any stair voids or other opening on the 1st floor should be filled with temporary floor cassettes and or bird cage scaffold before access is granted to the 1st floor deck.
- **First Floor Panels:** Prior to first floor panel being fitted the VCL laps is folded over onto the 1st floor deck and under the external walls line. The first-floor panels are then installed following the same method as the ground floor and fixed with self-drilling tek screws through the base track into the head track of the ground floor panels and together vertically with the same fixing. The exterior scaffold provides external edge protection during the installation and temporary floor panels are typically provided the close of stair openings as required.
- **Temporary weather protection:** External walls are typically left uncovered during storage installation, the galvanised steel and Glasroc X sheathing boards are robust enough to accommodate limited exposure during storage, transportation and installation. Any severe delays to commencement dates that cause the product to be stored for more than 8 weeks should be assessed and covering of product considered. Floor cassettes are more susceptible to weather exposure and are protected during storage. Peel clean chipboard decking can be factory fitted and manufacturers guidance followed on sealing and exposure timescales accounting for storage and transport adhered to.

Certificate Ref.: SG0823

- The site installing contractor must notify Checkmate of the dates the panels are to be landed on the site substructure, to enable sample site inspection.
- The installing contractor must notify Checkmate when on-site cladding is underway, to enable sample site inspection.
- The installing contractor must notify Checkmate of the dates of the roof WPM installation, to enable sample site inspection.
- The installation contractor must notify Checkmate of the dates for completion, to enable a completion inspection to be undertaken by Checkmate.

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