



**ABC+**  
**Warranty**

Approved Building Certificates + Warranties

**Contact Us**

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1 Anchorage Court, Caspian Road, Altrincham, WA14 5HH

## **PART 1 – STRUCTURAL WARRANTY TECHNICAL STANDARD**

### **SIP System (e.g. Sulfrack) – Loadbearing Wall & Roof Construction**

#### **1. Scope**

This standard applies to the design, supply, installation, and inspection of structural insulated panel (SIP) systems used in loadbearing wall and roof construction.

The intent is to ensure the system achieves:

- Structural stability
- Durability (minimum 10–12 years)
- Resistance to moisture-related degradation
- Compliance with Building Regulations

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#### **2. System Acceptance**

The SIP system must:

- Be covered by recognised third-party certification (e.g. BBA, ETA or equivalent), **or**
- Be subject to a project-specific technical appraisal acceptable to the warranty provider

The manufacturer must provide:

- Installation manual
- Design guidance
- Durability statement

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#### **3. Design Requirements**

##### **3.1 Structural Design**

- Full structural calculations must be undertaken by a suitably qualified engineer
- Design must clearly demonstrate:
  - Vertical load transfer
  - Lateral stability (racking resistance)
  - Load paths to foundation

Where required, additional elements must be specified:

- Steel/timber beams
- Lintels to openings
- Posts or columns



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🔗 No reliance should be placed on SIP panels alone unless explicitly designed to do so.

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### **3.2 Responsibility**

Design responsibility must be clearly defined between:

- SIP manufacturer
- Project structural engineer

Ambiguity in responsibility is not acceptable.

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### **3.3 Drawings**

Construction drawings must include:

- Panel layout and numbering
  - Junction details (wall-to-wall, wall-to-floor, wall-to-roof)
  - Openings and structural supports
  - Service zones
- 

## **4. Materials & Handling**

### **4.1 Delivery**

- Panels must arrive undamaged and wrapped
- Any damaged panels must not be used structurally

### **4.2 Storage**

- Stored off ground on level bearers
  - Protected from moisture at all times
  - Not left exposed for prolonged periods
- 

## **5. Installation Requirements**

### **5.1 Sole Plate & Base**

- Installed level and within tolerance
- DPC correctly positioned
- Fixings installed in accordance with design



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### **5.2 Panel Installation**

- Installed in accordance with manufacturer's sequence
- Vertical alignment maintained
- Temporary bracing installed until structure is stable

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### **5.3 Structural Connections (Critical)**

All joints must:

- Use specified splines (timber/insulated)
- Be fully engaged
- Be fixed using specified fixings and spacing
- Include sealant/foam where required

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### **5.4 Openings**

- Formed strictly in accordance with drawings
- No site alterations without approval
- Additional supports installed where required

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### **5.5 Airtightness & Sealing**

- All joints sealed to prevent air leakage
- No visible gaps or discontinuities

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## **6. Moisture Protection**

### **6.1 During Construction**

- Structure must be weather-protected as works progress
- Roof installed or temporary protection provided immediately

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### **6.2 External Envelope**

- Breather membrane installed correctly
- Cavity and drainage provision incorporated where required
- Cladding installed in accordance with design



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### **6.3 Penetrations**

- All penetrations sealed
- No unprotected exposure of core materials

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### **7. Services**

- Services must utilise designated routes/chases
- Cutting of structural skins is prohibited unless approved
- Any modification must be designed and documented

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### **8. Fire & Durability**

- Internal linings must achieve required fire resistance
- Wall and roof build-ups must prevent interstitial condensation
- Vapour control layers installed where required

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### **9. Inspection & Certification**

The following must be completed:

- Stage inspections:
  - Foundations
  - Panel erection
  - Pre-cladding
- Installer must be:
  - Competent
  - Trained/approved by manufacturer

Final handover must include:

- As-built drawings
- Structural calculations
- Installation records
- Compliance confirmation

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### **10. Non-Compliance**

Failure to comply with this standard may result in:



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- Withdrawal of warranty cover
- Requirement for opening-up works
- Remedial structural works at developer cost

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## **PART 2 – SITE INSPECTION CHECKLIST (TICK-BOX FORMAT)**

This checklist has been created to reflect the construction from a Structural Warranty ‘point of view

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### ***A. PRE-CONSTRUCTION***

- ☐ Structural calculations approved
- ☐ SIP system certified / accepted by warranty provider
- ☐ Manufacturer’s installation records and quality assurance documentation
- ☐ Design responsibility clearly defined
- ☐ Manufacturer installation guide available

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### ***B. DELIVERY & STORAGE***

- ☐ Panels delivered undamaged
- ☐ Panels stored off ground
- ☐ Panels protected from weather
- ☐ No prolonged exposure before installation

👉 A copy of delivery site checklist would need to be provided to ABC+

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### ***C. FOUNDATION / BASE***

- ☐ Sole plate level and within tolerance
- ☐ DPC correctly installed
- ☐ Holding down bolts/fixings installed correctly
- ☐ DPM correctly lapped

👉 Photographs to be sent to ABC+

👉 **KEY STAGE INSPECTION** – it is important that we visit site when DPC/DPM has been installed

👉 Client to provide manufacturer SE design and calculations

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### **D. PANEL INSTALLATION**

- ☐ Panels installed in correct sequence
- ☐ Panels plumb and aligned
- ☐ Temporary bracing installed
- ☐ Structural openings for doors and windows
- ☐ Engineered joists to first floor
- ☐ Structural openings to the engineers joists

🔑 **KEY PHOTOGRAPH STAGE** – Waterproof decking glued and mechanically fixed to joists & photos of the lateral restraint straps at floor level

🔑 Client to provide manufacturer SE design and calculations

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### **E. STRUCTURAL CONNECTIONS (CRITICAL)**

- ☐ Correct spline type used
- ☐ All joints fully engaged
- ☐ Fixings installed to specification
- ☐ Adhesive/foam applied where required
- ☐ Roof trusses

🔑 **KEY STAGE INSPECTION** – it is important that we visit site when scaffolding is still up so we can get access to the roof trusses.

🔑 **KEY PHOTOGRAPH STAGE** – Wall plate and lateral restraint straps at roof level

🔑 Client to provide manufacturer SE design and calculations for roof trusses

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### **F. OPENINGS**

- ☐ Openings formed as per drawings
  - ☐ No unauthorised site cutting
  - ☐ Lintels/beams installed where required
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### **G. AIRTIGHTNESS & SEALING**

- ☐ All joints sealed
  - ☐ No visible gaps
  - ☐ Perimeter junctions sealed
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## **H. MOISTURE PROTECTION**

- ☐ Roof installed or temporary weatherproofing in place
- ☐ Breather membrane installed correctly
- ☐ Panels not exposed to prolonged moisture

👉 **KEY PHOTOGRAPH STAGE** – Thermal bridging protection to opening reveals will be required

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## **I. EXTERNAL ENVELOPE**

- ☐ Cavity/drainage provision installed
- ☐ Cladding fixed in accordance with design
- ☐ Junctions correctly detailed

👉 **KEY PHOTOGRAPH STAGE** – Please provide photos

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## **J. SERVICES**

- ☐ Services routed through designated zones
- ☐ No structural damage to panels inc. any scaffold damage
- ☐ Any alterations approved
- ☐ Storm and foul drainage system
- ☐ Service openings within the panel – ensuring weather protection

👉 **KEY STAGE INSPECTION** – it is important that we visit site when drainage is being installed & services are being connected

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## **K. FINAL INSPECTION**

- ☐ Structure complete and stable
- ☐ All documentation available
- ☐ Installer competency confirmed
- ☐ Works comply with design and manufacturer guidance
- ☐ All services connected and operational
- ☐ Building Control have signed off the properties
- ☐ Video of free flowing water through the foul drainage system
- ☐ Approved contractor sign off for the SIPS panel

👉 **KEY STAGE INSPECTION** – Completion inspection

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👉 Please do send over photograph throughout the construction period, the more photos we have on file, this should minimise any last minute requests and ensures we can see all aspects of the build.

### **PART 3 – Documentation**

#### **Certification**

- ❖ Building Control Completion Certificate
- ❖ Electrical Certificate
- ❖ Gas Safety Certificate
- ❖ EPC/SAP
- ❖ Air Tightness Test Certificate
- ❖ Sound Test Certificate
- ❖ Insurance Backed Guarantee policy, along with a copy of the workmanship guarantee for flat roof
- ❖ SIP Panel Accreditation Certificate
- ❖ Any guarantees for newly installed windows and doors

#### **Commissioning Certificate/Sign Off Forms (ABC+ to provide the sign off forms)**

- ❖ External Render/Cladding Sign Off
- ❖ Timberframe/SIPs Panel Sign Off
- ❖ Solar/PV System Sign off (if being installed)
- ❖ BOPAS Certificate
- ❖ Ventilation Test Certificate
- ❖ Window/Door/Rooflight Sign Off

#### **Plan Check**

- ❖ Piling logs and integrity tests
- ❖ Floor plans and layouts
- ❖ Elevations
- ❖ Plans with Drainage Layout
- ❖ Structural Engineers Design and Calculations for all aspects of the build
- ❖ Construction Specification Notes
- ❖ Planning Approval Letter
- ❖ SAP Calculations
- ❖ Specifications for new windows and doors
- ❖ Ground Investigation Report

**\*\*The above list is indicative and our technical team may request further information during the construction phase\*\***