

SmartPly[®] Frame

The Smart Answer ✓ for Timber Frame

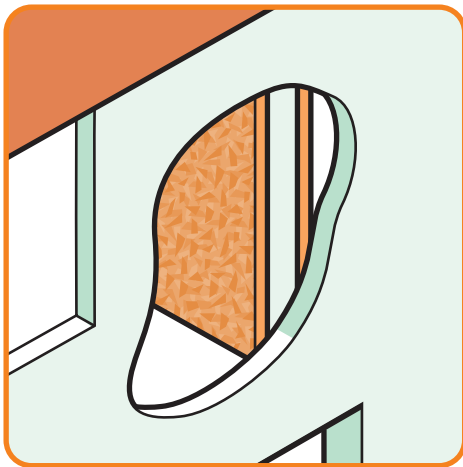


designed to provide a superior quality rigid sheathing wall as part of a timber frame construction



smart frames

SmartPly Frame is made from precisely engineered strands of wood which are compressed with an exterior grade glue at high temperature and pressure. The result is a load-bearing panel that achieves a reliable distribution of strength, stiffness and spanning capacity along and across the board.



developed for timber frame construction

SmartPly Frame has a high structural racking strength, capable of providing rigid vertical diaphragms – ensuring stability in transport and erection and providing the inherent strength required in the completed timber frame structure.

zero-added formaldehyde

In keeping with current construction methods of working towards healthier homes, SmartPly Frame has been manufactured using zero-added formaldehyde.

defect free and easy to use

SmartPly Frame has no structural defects, such as knotholes and core voids, and is easy to work with. It cuts easily, will not delaminate, and can be bored, routed and planed with consistent results. Panels can be nailed up to 10mm from the edge without splitting or breaking out – critical to structural applications.

smarter products – higher standards

SmartPly Frame is manufactured to EN 300 from a structural panel that satisfies standards BS 5268 Part 2, and is approved by the British Board of Agrément (BBA) and the Irish Agrément Board (IAB). Its suitability for structural use is also recognised by Homebond, Local Authority Building Inspectors and the NHBC.

All SmartPly OSB products are compliant with the Construction Products Directive (CPD) for structural use. Every board of SmartPly 3 is marked CE 2+ structural. SmartPly has achieved I.S. EN ISO9001: 2000, the internationally recognised quality management system.

environmentally approved

At least 90% of the timber used in the manufacture of SmartPly Frame comes from well-managed forests independently certified according to the rules of the Forest Stewardship Council (FSC). All SmartPly 3 products are made with formaldehyde-free resins.

certified materials

It is essential all structural panel products specified for use in construction be fit for the intended purpose in order to comply with the requirements of the Building Regulations.

The Building Regulations state that all works to which these Regulations shall apply shall be carried out with proper materials and in a workmanlike manner.

The definition of proper materials is defined as materials which are fit for the use for which they are intended and for the conditions in which they are to be used and includes materials which:

- a) bear a CE marking in accordance with the provisions of the Construction Products Directive; or
- b) comply with an appropriate harmonised standard, European technical approval or national technical specification as defined in article 4(2) of the Construction Products Directive; or
- c) comply with an appropriate Standard or Agrément Board Certificate or with an alternative national technical specification of any state which is a contracting party to the Agreement on the European Economic Area, which provides in use an equivalent level of safety and suitability.

To achieve compliance, structural panel products shall either meet the accepted National Standard requirements of BS 5268 Part 2 or achieve an Agrément Board Certificate or other European Technical approval.

storage and handling

Careful storage and handling is important to maintain panels in their correct condition for use. Boards should be stacked flat, off the ground and on a level surface with all four edges flush. Stacking on the edge should be avoided. Wherever possible, panels should be stored in an enclosed dry building, protected from rain and accidental wetting. Stack on battens of equal thickness at centres not exceeding 400mm (as per recommendations of BS 7916).

Care should be taken to avoid damage from banding. Bands should be cut as soon as practical to avoid permanently deforming the boards.

During transport it is particularly important to protect edges and corners with suitable coverings.

structural properties

SmartPly Frame is suitable for structural timber frame wall sheathing and has a basic racking strength of 1.68kN/m for a 9mm datum thickness when used with category 1 fasteners as defined in Table 2 of BS 5268 Part 6, Section 6.1:1996 and can be used with the modification factors defined in this standard.

The basic racking resistance of SmartPly Frame is valid for C16, or better strength grade studs as defined in BS 5268 Part 2 and spaced at centres not exceeding 610mm. Minimum stud dimensions and fixing requirements for which this racking resistance applies are given in BS 5268 Part 6.

The timber structure in which the sheathing board is incorporated must be designed and constructed to comply with BS 5268 Part 2 and BS 5268 Part 6, Section 6.1.

moisture

While temporary exposure to the elements is permissible, it should be kept to the shortest period possible during erection and construction.

The moisture content of sheathing material is affected by the humidity conditions existing in the cavity of which it forms one face. The masonry cladding around which the traditional cold frame shell is contained acts as a rain screen to deflect moisture. However, rainwater will penetrate the outer leaf of masonry walls under certain conditions of driving rain and a number of precautions are necessary to protect the timber frame structural inner leaf:

1. Incorporate a conventional free-draining ventilated cavity between the inner timber frame and outer masonry leaf, ensuring it is free from mortar droppings or other debris
2. Provide cavity trays and damp proof courses at all interruptions to the cavity, in accordance with standard practice
3. For external walls in which the boards are incorporated, provide a vapour control layer on the room side
4. Ensure the masonry external leaf is constructed correctly to provide adequate resistance to wind-driven rain, particularly in regions classified as severe exposure. Raked moisture joints or high porosity masonry should be avoided, particularly in these latter areas
5. Ensure the required factory installed breather membrane to BS 4016 has been installed on the external face of the sheathing board. The membrane is usually fixed using authentic stainless steel staples at 300mm centres.

wall fabrication

SmartPly Frame sheathing shall be fixed to studs by nailing at 150mm centres along board perimeters and at 300mm centres to intermediate studs using 3mm diameter wire nails at least 50mm long unless design dictates otherwise.

Fabrication of structural timber frame wall sheathing panels must be carried out by an approved timber frame manufacturer in accordance with BS 5268 Part 6, Section 6.1.

fixings and expansion gaps

Fixing of sheathing to timber studs should be in accordance with BS 5268 Part 6: Section 6.1. All fasteners should be coated with suitable treatment against corrosion.

Provide expansion gaps allowing a 3mm gap between adjacent SmartPly 3 sheathing boards and a 10mm gap where the panels abut any rigid upstands. Long walls may require additional expansion gaps to allow for a possible overwall expansion of 2mm per metre length of wall. This is in addition to the 3mm expansion gap required between each sheathing panel.

breather membrane

A suitable breather membrane to BS 4016:1997 must be installed on the external face of the SmartPly 3 wall sheathing with the necessary overlaps incorporated at all membrane joints. This is usually installed in the factory and its function is to protect the frame until the external cladding (e.g. brick/block, stone, timber clad, render or clinker brick) is installed.

wall ties

Approved Agrément Certified flexible stainless steel wall ties are recommended. Wall ties must be nailed through the wall sheathing and into the supporting studwork behind using approved fixings. Consult the timber frame manufacturer for specifications and spacing requirements.

thermal insulation

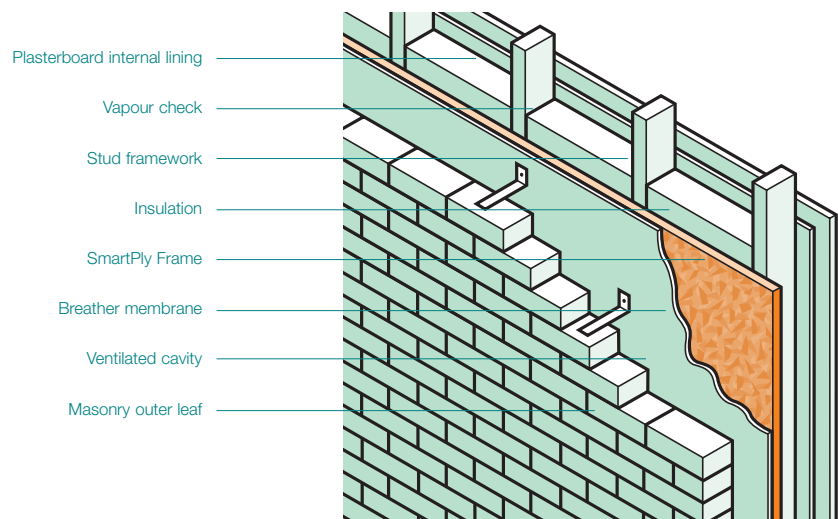
The thermal conductivity of SmartPly Frame sheathing is such that it will not have a significant effect on the u-value of the structure in which it is incorporated. A value of 0.13wm/k may be assumed.

behaviour in relation to fire

SmartPly Frame wall sheathing has a class 3 surface spread of flame in accordance with BS 476 Part 7. The maximum cavity dimension in any direction may be limited. See local regulations for further details.

It is recommended that users consult a structural engineer should a more detailed specification be required. This information is published in good faith and does not constitute any form of warranty.

typical cross-section (timber-frame wall structure)





wall sheathing panel solutions

SmartPly Frame is suitable for use as a structural wall sheathing in traditional timber frame construction. The board is fixed to the timber wall studs to contribute lateral restraint to the wall frame in conjunction with noggins, bracings or other sheathing/lining materials. The sheathing's resistance to horizontal wind forces (racking resistance) can be taken into account in the design of the timber frame structure, where advantage can be taken of the interaction between the studs and the sheathing in resisting compression and bending or reducing deflection.

SmartPly Frame wall sheathing provides rapid closure of the building during construction as the wall panels are delivered having been pre-fabricated in a quality controlled factory environment. The sheathing also provides a solid background onto which the breather membrane is fixed.

dimensions and thickness

SmartPly Frame is most commonly used as a 9mm square edge board with dimensions 2397 x 1197mm, ideally suited to timber frame manufacturing.

Other thicknesses may be available as required, subject to structural design requirements.

how do I recognise the product?

All SmartPly 3 structural panels, including SmartPly Frame, are clearly marked by the manufacturer with the following information:*

- ✔ **manufacturer's name (SmartPly Europe)**
- ✔ **European norm (EN 300 standard)**
- ✔ **type/grade of board**
- ✔ **nominal thickness**
- ✔ **major axis (direction of laying arrows)**
- ✔ **batch number or production week and year, day/shift**
- ✔ **certification mark (e.g. BBA, IAB)**
- ✔ **CE 2+ structural certification**
- ✔ **FSC certification**

* Markings may vary depending on product type

dimensions and thickness (mm)

thickness	length x width			type
9	2440 x 1220	2397 x 1197	2697 x 1197	square edge
11	2440 x 1220	2400 x 1200		square edge
15	2440 x 1220	2400 x 1200		square edge
18	2440 x 1220	2400 x 1200		square edge

Notes: Tongue & grooved panels may also be available on request.

smart quality

certification

SmartPly Frame meets EN 300 and is certified by the Irish Agrément Board (IAB Cert. No. 02/0093) and the British Board of Agrément (BBA Cert. No. 98/3488) for use in structural wall sheathing applications in humid conditions (as defined in terms of Service Class 2 of ENV 1995-1-1 for load bearing boards).

All SmartPly OSB products are compliant with the Construction Products Directive (CPD) for structural use. Every board of SmartPly 3 is marked CE 2+ structural. SmartPly has achieved I.S. EN ISO9001:2000, the internationally recognised quality management system.

This product is suitable for residential and commercial construction, including manufactured and modular home applications.

Additional Certification (KOMO/ETA/VTT/Byggforsk) available on request.



SmartPly has full certification from the Forestry Stewardship Council, one of the largest and most credible certifiers of wood producers and has the support of major environmental groups (such as World Wildlife Fund, Greenpeace, and the Rainforest Action Network) as well as key inter-governmental forestry bodies. The FSC certification is the leading internationally-recognised standard that assures buyers of wood-based products that the timber used results from environmentally and socially responsible forestry management.



By buying products with the FSC label you are supporting the growth of responsible forest management worldwide

FSC Supplier Cert no. TT-COC-1572
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For more information about any SmartPly product, contact your local merchant.

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