What responsible buyers should ask for

- A clear technical specification covering dimensions, density, moisture and mechanical requirements.
- Evidence of nail-withdrawal and pallet-system performance for the intended application.
- Documented raw-material composition, recycled-content and chain-of-custody evidence, together with relevant PPWR and REACH information.
- Product-specific environmental evidence and appropriate end-of-life instructions.

Evidence base and further reading

- Regulation (EU) 2025/40 on packaging and packaging waste
- European Commission — 2026 PPWR guidance
- IPPC/FAO — ISPM 15: Regulation of wood packaging material in international trade
- European Commission — Cascading use of wood
- EU LIFE project — composite pallet blocks using waste wood

Further industry sources are available from FEFPEB

NOTE: This fact sheet describes the composite-block category. Individual products differ in feedstock, binder, density, mechanical performance and environmental profile. Product-specific claims should be supported by technical documentation and independent evidence where appropriate.





Composite blocks:

More value from every fibre

Resource-efficient, consistent components for reusable wooden pallets

Use wood more efficiently.
Build pallets more consistently.
Keep valuable material in circulation.

Contact FEFPEB

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Composite pallet blocks

Also known as pressed-wood or wood-chip blocks — are engineered wood components made from selected wood particles combined with a bonding system and pressed under controlled heat and pressure. They are wood-based components, not plastic blocks, and are designed specifically for pallet production and palletised logistics.

Unlike a block cut from one piece of timber, a composite block can be produced from sawmill residues, wood-processing side streams and, where permitted and properly controlled, recovered wood. This allows the pallet sector to make productive use of smaller wood fractions and to reduce its dependence on block-grade solid timber.

A smarter use of wood resources

- Composite production can turn chips, sawdust, shavings and selected recovered wood into a functional pallet component.
- Makes material use of wood fractions that are too small or unsuitable for solid blocks.
- Can reduce demand for block-grade solid timber.
- Supports the cascading use of wood: material use, reuse and recycling before final energy recovery.

Reliable pallet connections — when correctly specified

- Properly specified composite blocks are engineered to provide reliable nail retention without the splitting that can occur in solid timber.
- Performance can be designed, measured and controlled through industrial quality assurance.
- Certified blocks should be tested against the requirements of the relevant pallet system or customer specification.
- Composite is a material category, not a guarantee: different recipes and densities do not perform identically.

Consistency, fewer defects, efficient production

- Composite blocks are manufactured to defined dimensional and material parameters, reducing the variability associated with species, growth conditions, grain, knots, density and moisture.
- Accurate and repeatable dimensions.
- Reduced tendency to crack or split, with cleaner edges and a lower risk of splinters or protruding fibres.
- Stable pallet geometry and more predictable processing on automated pallet lines.
- Ready-to-use exact dimensions can reduce cutting, handling and production waste.
- Composite blocks enable faster, more consistent marking and improved readability compared with solid wood with both inkjet printing and branding plates.

A component for reusable pallet systems

- Composite blocks are widely used in pallets intended for repeated trips, repair and circulation. Their environmental value is greatest when they are part of a well-managed reusable pallet system.
- Supports long-life, repairable transport packaging.
- Keeps wood-based material in use across multiple logistics cycles.
- Can be recovered, recycled or otherwise managed at end of life in accordance with the block composition and applicable local rules.



International trade

ISPM 15 treats wood packaging made wholly from processed wood material created using glue, heat or pressure as sufficiently low risk to be exempt from the standard's treatment requirements. Composite pallet blocks generally fall within this processed-wood component category.

Note: this does not automatically exempt a complete pallet that also contains solid-wood boards. The finished pallet must still meet the phytosanitary requirements applicable to all its regulated components and the destination market.

Supporting the PPWR direction

The EU Packaging and Packaging Waste Regulation (PPWR) has applied from 12 August 2026. Composite blocks can support its objectives by enabling secondary wood use and by functioning within reusable, repairable wooden pallet systems.

Material choice alone does not prove PPWR compliance. Suppliers of packaging materials must provide packaging manufacturers with the information and documentation needed to demonstrate conformity, while the packaging manufacturer remains responsible for the conformity assessment and EU declaration of conformity.

Environmental value without greenwashing

The strongest environmental claim is not that composite is always greener. It is that composite blocks can use wood more efficiently and reduce demand for solid timber — when the feedstock and process are properly documented.

Environmental performance depends on factors including the raw-material mix, energy source, binder, transport distances, pallet service life and end-of-life route. Carbon-footprint figures should therefore be supported by a product-specific EPD or LCA rather than applied to the whole product category.

Composite blocks and solid-wood blocks: a practical comparison

ASPECT	COMPOSITE PALLET BLOCK	SOLID-WOOD BLOCK
Raw material	Wood particles; may include sawmill residues and controlled recovered wood	A sawn selection of solid timber
Use of wood residue	Can utilise smaller fractions and keep secondary wood in material use	Requires block-sized solid timber; offcuts may be generated during cutting
Dimensions and and density	Engineered to defined parameters; high repeatability	Naturally variable by species, growth, knots and moisture
Natural defects	Reduced knots, splits and grain-related weak spots	Knots, cracks, splits and grain vaariation may occure
Nail retention	Can be engineered and tested; strongly depedent on density and recipe	Dependent on wood species, density, grain, moisture and defects
Moisture and biological risk	Controlled production moisture; high temperature processing reduces pest risk	Moisture varies; untreated material may require drying and phytosanitary treatment
Pallet production	Ready-to-use exact sizes; reduced sawing and trimming	Often requires cutting; sizing and sorting
ISPM 15	Generally treated as a processed-wood compenent; whole-pallet rules still apply	Raw solid wood is subject to applicable treatment and marking requirements
Circularity	Can incorporate residues or recovered wood and support reusable pallets	Renewable, reusable and recyclabe when responsibly sourced and well managed
Environmental proof	Potential benefits must be verified for the actual products and supply chain	Likewise depends on forestry, drying, transport, service life and end of life