



PALLETS • PALLET BOXES • LAYER PADS

Pallet Innovation Dissected

THE SCIENCE BEHIND PALLITE®



INNOVATION DISSECTED

The alternative pallet market is growing. Increasingly, businesses are seeing the benefits of moving away from traditional wooden pallets to more cost-effective, clean, light and environmentally-friendly products.

At **PALLITE®**, we believe our paper pallets and other products stack up well against the competition, but we don't expect you to just take our word for it.

In this document, we explore the science behind **PALLITE®'s** innovative design and invite you to discover for yourself if **PALLITE®** is the right choice for you and your business.

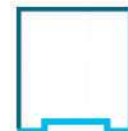
PALLETS • PALLET BOXES • LAYER PADS



PALLETS



PALLET BOXES



INSULATED
PALLET BOXES



LAYER PADS



PALLET FEET

WHY PALLITE®?

Let's start by looking at how PALLITE® stacks up against the other alternative pallet products out there and why you might choose it.

Clean

PALLITE® products are made from just two products: paper and glue. Unlike wooden pallets, they contain no nails, and do not splinter. They're also more resistant to mould, as they retain less moisture than wooden alternatives.

Environmentally-friendly

The PALLITE® range is made from 85% recycled materials from sustainable sources, and our products are 100% recyclable. They are also designed to be reused without losing their strength.

Easy-to-assemble

PALLITE®'s pallet boxes are fully-collapsible, meaning you can save on storage space when you're not using them and rebuild them again in seconds, with no expertise required.

Lightweight

The PALLITE® range is up to 80% lighter than wooden and plastic alternatives. PALLITE® pallets start from just 3.8kg, which makes them around 18kg lighter than their wooden counterparts.

Strong

A PALLITE pallet® can hold up to 750kg in open-beam racking and carry up to 1.2 tonnes, making it a more viable alternative to wood than other paper-based pallets. PALLITE® pallet boxes are strong enough to double-stack loads without crushing, maximising use of space in transit.

Cost-effective

Businesses that use PALLITE® products benefit from cost savings across their supply chain by maximising their use of space, reducing the weight of their consignments, lowering their fuel consumption, reducing damages or contamination, lowering the risk of workplace injuries, and avoiding ISPM15 regulations on exports.

Adaptable

We can create pallets and pallet boxes that precisely fit the space available, and custom inserts to reduce the movement of fragile goods in transit. If your business usually double-stacks Euro pallets in a 40ft container, you could transport up to 28.5% more product by switching to PALLITE®.

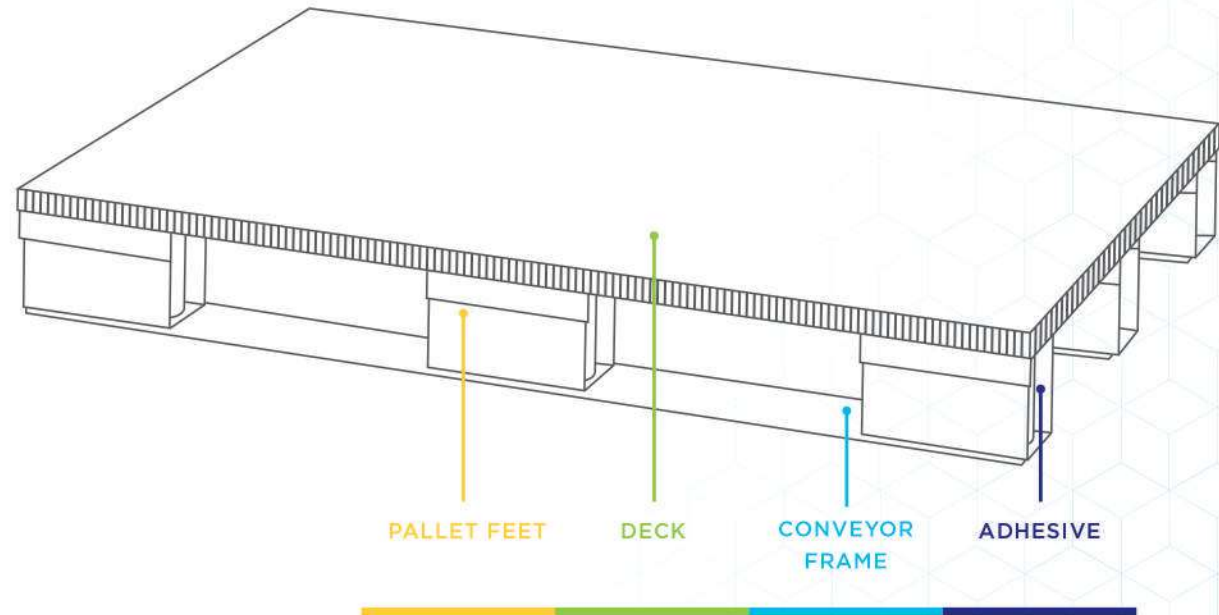


THE PALLITE® PALLET DISSECTED



THE SCIENCE BIT

Most of the benefits of **PALLITE®** are easy to understand but, on face value, we appreciate it might be difficult to comprehend how a pallet made solely of paper and glue could hold an 8 tonne tractor. We understand you might need a bit of convincing. Let's look at exactly how and why it does that.





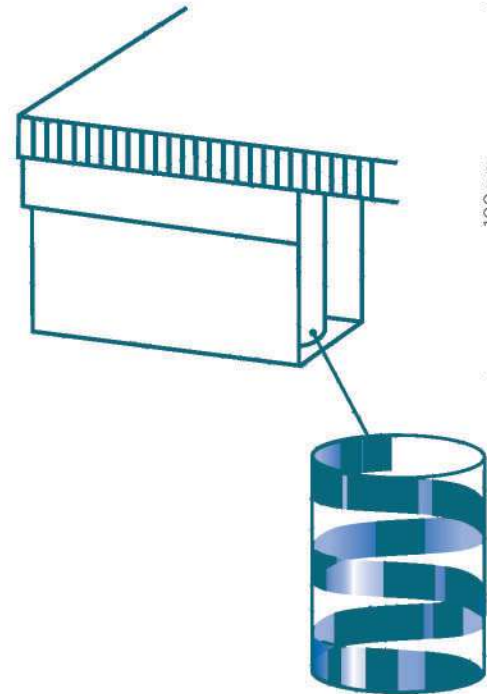
PALLET FOOT

SPIRAL-WOUND TUBES

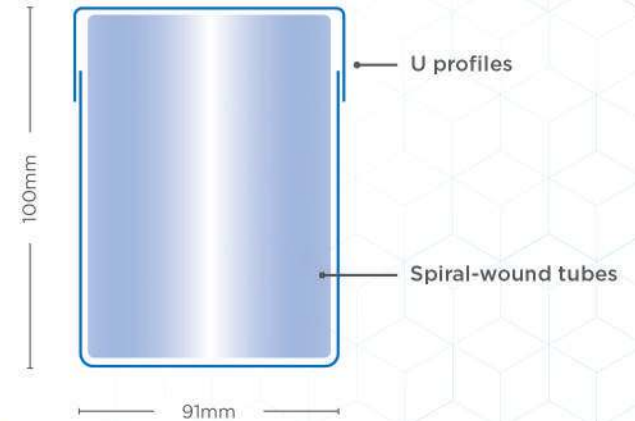
Inside the pallet foot sits 3" diameter tubes made from 6 layers of recycled board. Thanks to their spiral-wound construction, these tubes have impressive vertical strength, with a pair of tubes able to withstand up to 1 tonne of vertical weight. Tubes are spaced every 100mm within the pallet foot for maximum load-carrying capability.

U - PROFILES

Within each pallet foot are two laminated 'u' profiles glued together around the spiral-wound tubes.



END VIEW



The spiral-wound construction, ensures an impressive vertical strength.



DECK

The component of the **PALLITE®** pallet or pallet box that products are loaded onto, the deck is just 25mm thick, with medium and heavy options available depending on strength requirements. It provides a flat, slat-free surface, eliminating the need for layer or pallet boards and ensuring there are no gaps for products to fall through.

HONEYCOMB CELLS

Paper cells resembling honeycomb are used to add strength. Honeycomb is a recognised construction technology found in furniture, car parcel shelves, doors, exhibition stands and points-of-sale, but **PALLITE®** was the first to bring it to the pallet market. Formed out of 100% waste-based test liner, these simple cells are the key to **PALLITE®**'s innovative, engineered design and high-performance products.

KRAFT PAPER

The honeycomb cells are laminated to layers of wet-strength Kraft paper – which is made from 80% virgin paper and 20% recycled material, all from FSC certified, sustainable sources.

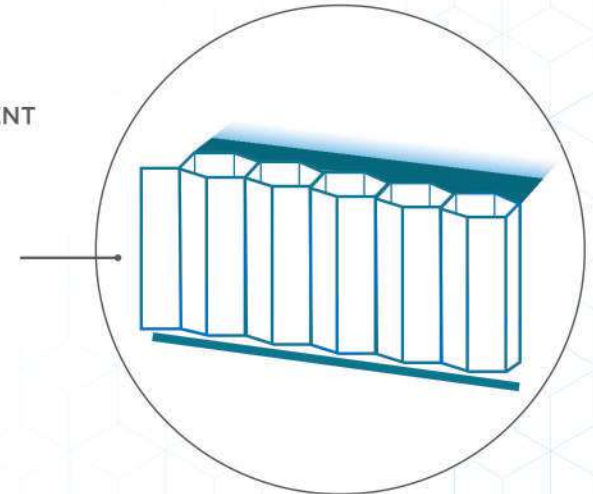


CROSS SECTION



INTERNAL SEGMENT

Manufactured from honeycomb cells and lined with wet strength Kraft papers for maximum moisture resistance and performance.



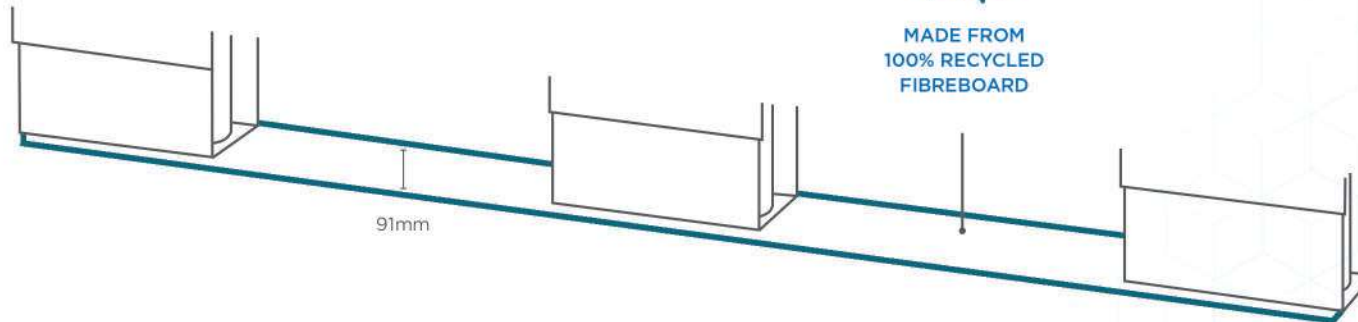


CONVEYOR

Conveyor frames can be added to **PALLITE®** pallets if they will be used on conveyor systems or palletisers. Made from flat, 90mm wide laminated fibreboards constructed from 100% recyclable test liner with a kraft outer wrapper, they are bonded to the base of the **PALLITE®** pallet feet using strong, water-based adhesive.



MADE FROM
100% RECYCLED
FIBREBOARD





ADHESIVE

All of the components that make up **PALLITE®** products are laminated together and assembled using PVA glue. Water-based and cleared by the FDA for food contact, PVA is widely accepted by the food and pharmaceutical sectors, and regularly used in most packaging sectors. We also use hot-melt adhesive to hold the sub-frame bearers of the **PALLITE®** pallet to the honeycomb top deck. Made from synthetic polymer and resin, this form of adhesive has also been cleared by the FDA for food contact.



ENVIRONMENTAL CREDENTIALS

PALLITE® products are made from recycled waste paper from sustainable sources. Our process uses side run, a by-product of the paper mill. This makes our products incredibly environmentally-friendly, and helps ensure they are 100% recyclable after use.



100% RECYCLABLE



INDEPENDENT VERIFICATION

We strongly believe in the capabilities of **PALLITE®** products, as well as in the benefits they bring to businesses that choose to use them. But we don't expect our customers to just take our word for it.



All our products undergo rigorous testing, both in house and through independent experts against industry standards, to ensure we have evidence to support the claims we make in our marketing and promotional materials.



We work closely with the likes of Cranfield and Warwick Universities, using techniques including computer simulations, compression testing and deflection strength to qualify the performance of our products across a wide range of environmental conditions.



Our UK standard pallet has been independently tested in all aspects of use, and has undergone stringent transit and vibration testing to ASTM D4169-09 standards.

COMPRESSION TESTING

Results showed that **PALLITE®** pallets remained unchanged and held strong until 4,000kgf.

STRENGTH

Dynamic load – Results showed that **PALLITE®** pallets are capable of spanning open-beam racking with a 750kg load, with only 7.2% deflection.

Lift test – Results showed that **PALLITE®** pallets are capable of lifting a 1 tonne load with only an 8mm deflection.

QUALITY CONTROL

We extensively test all of our products in-house, and proactively carry out quality checks on every item that leaves our factory. These include quantitative and qualitative checks on every reel of paper that enters our warehouse, and extensive testing on the glue we use, to ensure it will withstand its journey through your supply chain. We continually develop our processes and products to ensure they are meeting customers' needs.

BEWARE OF IMITATIONS

PALLITE® products are registered designs, which prevents other companies from directly copying our innovations. Our design exceeds the performance of any other known paper-based pallet or pallet box. So beware of imitations – even the most subtle of changes to our design from a competitor claiming to use the same technology is likely to have a significant impact on the performance and capability of the product.



We hope to develop the first world standards for paper-based pallet products, in order to help ensure **PALLITE®** can be directly compared to its wooden or plastic equivalents quickly and easily.

NEXT STEPS

Well, if you like what you've read and think PALLITE® could be for you, why not get in touch?

Drop us a line via the link below, and one of our team will call you back to discuss your individual requirements.

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