



Components
WJ Group

Certified timber engineering & treatment specialists.

www.wj-group.co.uk | info@wj-group.co.uk

Timber Chassis

The Sustainable Chassis

- ✓ Sustainable
- ✓ Carbon Negative
- ✓ Durable
- ✓ UC3 Treated



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An Introduction To Our Ground-Breaking Solution

At WJ Components, we recognise that in the world of caravan and holiday home manufacturing, a one-size-fits-all approach simply doesn't suffice. Each manufacturer brings unique visions, specifications, and challenges to their designs, all contributing factors that demand bespoke solutions rather than generic products. That's why our timber chassis are not standard off-the-shelf items but are carefully engineered and tailored to meet the distinct needs of each client.

Drawing from our extensive experience in crafting customised roof trusses for the caravan industry, we apply the same level of precision, innovation, and attention to detail to our chassis production. Just as every truss is individually tested and engineered to suit specific load and structural requirements, each of our chassis is designed with your unique unit in mind. We collaborate closely with your design and engineering teams to understand the exact parameters, load distributions, and performance criteria your caravans or holiday homes require.

By choosing our timber chassis, it means investing in a partnership of early adoption that values your individuality as a manufacturer. We don't just supply a product; we offer a collaborative solution that aligns with your goals, supports your design aspirations, and contributes to the success of your business. Our dedication to creating chassis that are as unique as your caravans and holiday homes ensures that you can deliver exceptional quality to your customers, reinforcing your position as a leader in the industry.

The Sustainable Choice

Environmental sustainability isn't just an added benefit of our chassis; it's one of the foundations upon which it is built. We source all our timber from Forest Stewardship Council (FSC)-certified forests, ensuring that the wood is harvested responsibly and ethically. This commitment supports sustainable forest management practices that protect ecosystems and biodiversity. Moreover, the production of our timber chassis emits significantly less CO₂ compared to traditional steel manufacturing processes, directly contributing to the reduction of greenhouse gases and the fight against climate change.



Timber, being a renewable resource, offers a sustainable alternative to finite metal ores used in steel production. By choosing our chassis, manufacturers can reduce their environmental impact and align themselves with global sustainability goals. This shift not only benefits the planet but also appeals to a growing market of environmentally conscious consumers who prioritise eco-friendly products. Embracing our timber chassis allows manufacturers to demonstrate corporate responsibility and gain a competitive edge in an industry increasingly focused on sustainability.

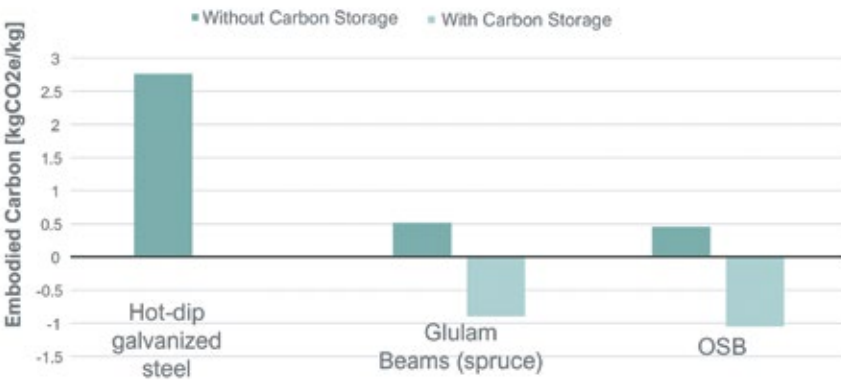
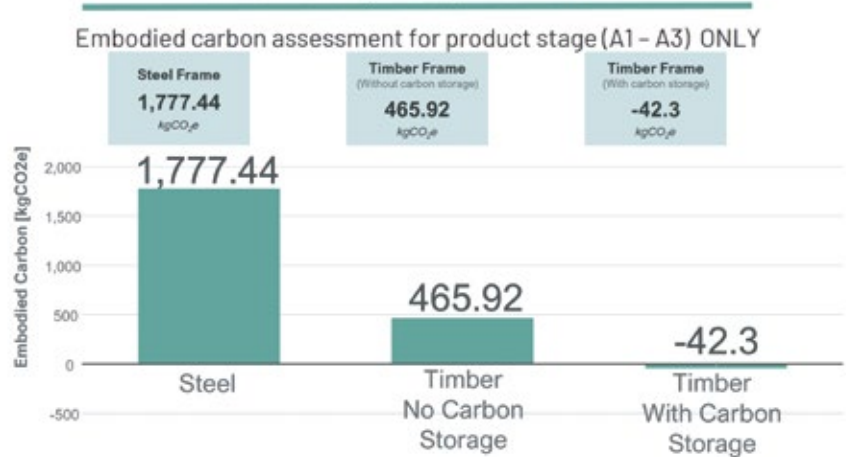
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Reducing Carbon Emissions

We're timber engineering specialists with decades of experience. Our goal is to help the caravan and leisure home industry to reduce costs and continuously improve the use of engineered timber within production.

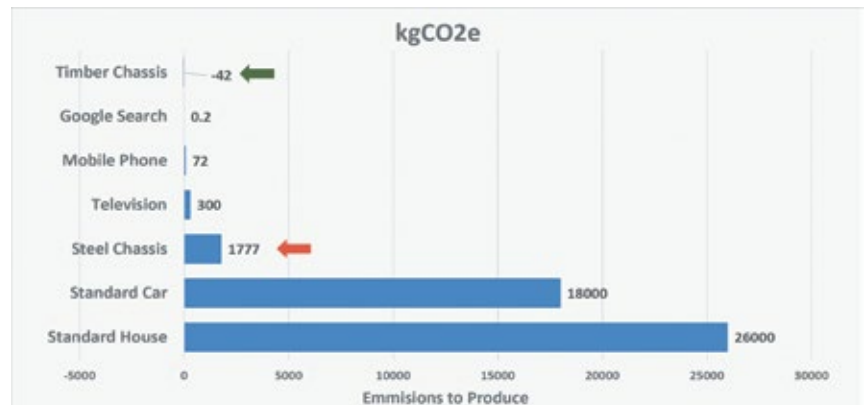
The table to the right shows the equivalent CO₂ Emissions related to the manufacture and carbon storage for both a steel framed and timber framed chassis.

Embodied Carbon of Static Carbon
Frame Design Comparison Chart



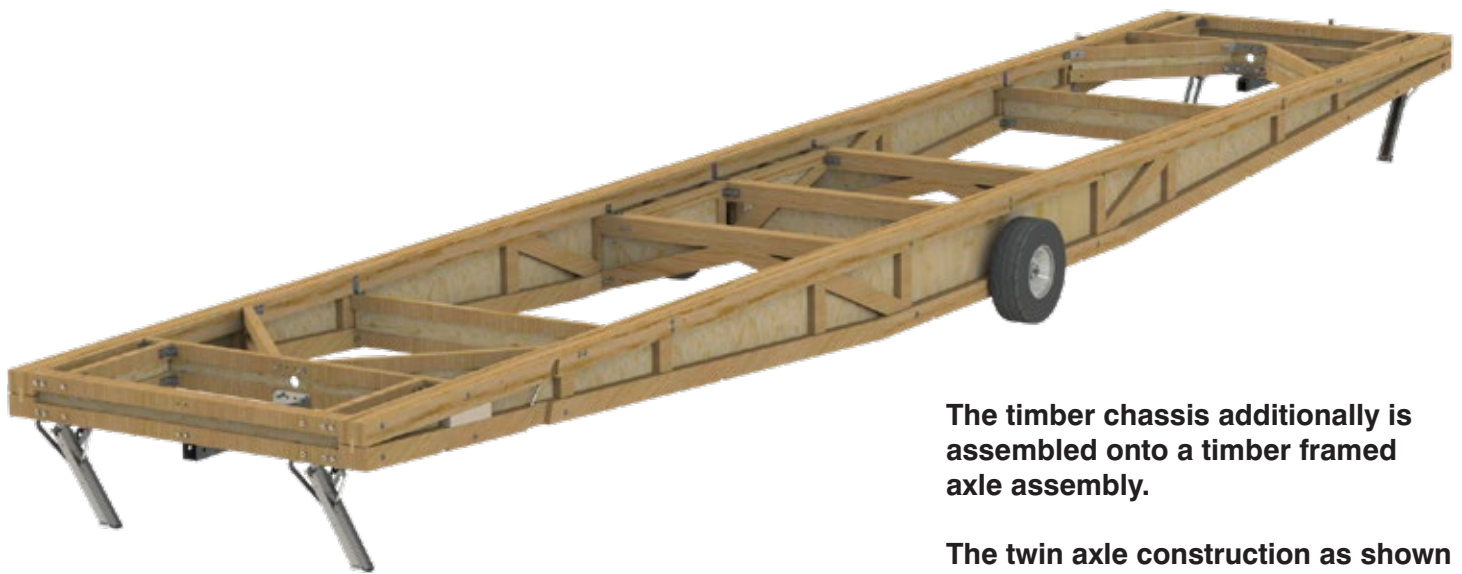
The table to the left shows embodied carbon with and without storage for galvanised steel against components of the iC-0° chassis.

This table shows common objects and their emissions in KgCO₂e. Highlighted in green is our iC-0° chassis vs a steel chassis marked in red currently used in the market.



A Load Distributing Axle

To further complement the timber frame chassis, we've developed a load distributing timber axle. The benefits of the timber axle are three-fold. The first being the further reductions in carbon emissions against a steel frame axle, the second being a cost reduction by removing further expensive steel components and the third is a reduction of weight.

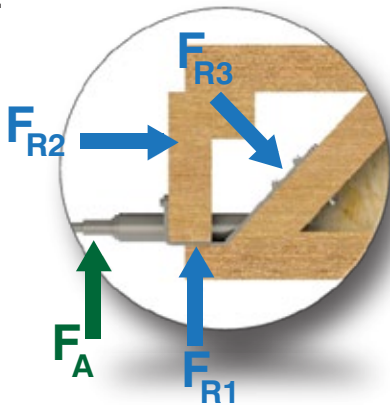


The timber chassis additionally is assembled onto a timber framed axle assembly.

The twin axle construction as shown below has been physically tested to 8.2 Tonnes with no defects.

Our chassis is c.15% lighter than a steel frame chassis.

The axle assembly has been designed to distribute loads throughout both the longitudinal members and the axle frame itself.



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Frequently Asked Questions

How does the strength of the timber chassis compare to traditional steel chassis?

Answer: Our timber chassis is engineered to meet or exceed the strength of traditional steel chassis. By combining I-beams with glulam timber, we achieve exceptional structural integrity and resilience. We provide FEA analysis on all chassis designs to ensure loads are within the chassis' capability and we work with manufacturers to produce an appropriately strong chassis for the unit it's going under.

Is the timber chassis more susceptible to weather-related damage?

Answer: The timber used in our chassis is treated with advanced preservatives to UC3 or UC4 that protect against moisture, rot, and insect infestation. This treatment enhances durability and ensures the chassis performs reliably in various environmental conditions.

Can the timber chassis handle the same load capacities as steel chassis?

Answer: Absolutely. Our chassis are designed to support loads it will be supporting. As we work with manufacturers, all of our production chassis are engineered to specification.

Is the timber chassis compatible with existing caravan designs?

Answer: Yes, our chassis is adaptable to most existing designs. We work closely with manufacturers to ensure seamless integration into their production processes, minimising any need for significant design alterations.

How does the timber chassis impact environmental sustainability?

Answer: The chassis is crafted from FSC-certified timber sourced from responsibly managed forests, making the timber used, sustainable. Its production emits significantly less CO₂ compared to steel manufacturing, reducing the overall carbon footprint.

Can the timber chassis be customised for different models?

Answer: Yes, we offer customisable solutions to fit various designs and specifications. Our team collaborates with manufacturers to tailor the chassis to their specific needs.

What is the lead time for orders of the timber chassis?

Answer: Lead times can vary based on order size and customisation requirements. We strive to accommodate our customer's schedules and will provide estimated delivery times during the ordering process.

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Frequently Asked Questions Cont.

Is the timber chassis more expensive than a steel chassis?

Answer: While the initial investment may be comparable or slightly higher, the timber chassis offers long-term cost benefits. Reduced maintenance and potential tax incentives for using sustainable materials can offset initial costs.

What support does WJ Components offer to manufacturers adopting the timber chassis?

Answer: We provide comprehensive support, including technical assistance during integration, staff training, and ongoing customer service to ensure a smooth transition and long-term success. We have a dedicated design and technical team who work with manufacturers to ensure chassis are suitable for purpose.

How is the chassis delivered?

Answer: The chassis can be delivered fully assembled or can be offered as a flat-packed solution for manufacturers to assemble. Manufacturer assembly enables larger amount of chassis to be delivered on one truck, however WJ would need to ensure the manufacturer's assembly lines we're trained and competent.

How can manufacturers or consumers learn more or place an order?

Answer: Interested parties can contact us directly via phone or email. Our team is ready to provide detailed information, answer any additional questions, provide drawings and assist with the ordering process.

Why should manufacturers switch to the timber chassis now?

Answer: By adopting our timber chassis, manufacturers can lead the industry in sustainability, meet growing consumer demand for eco-friendly products, and benefit from the proven performance and advantages our chassis offers. Early adoption can also position manufacturers ahead of competitors in innovation and market appeal.

Have Further Questions?

We welcome further questions about our chassis products as we understand that you may need further clarification or more detailed answers on certain more specific areas.

Our offering is more bespoke as we know that no one caravan, lodge, pod or hut is the same and we want to provide you with the most cost effective solution, that caters for the load expected.

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Data Backed Assurance

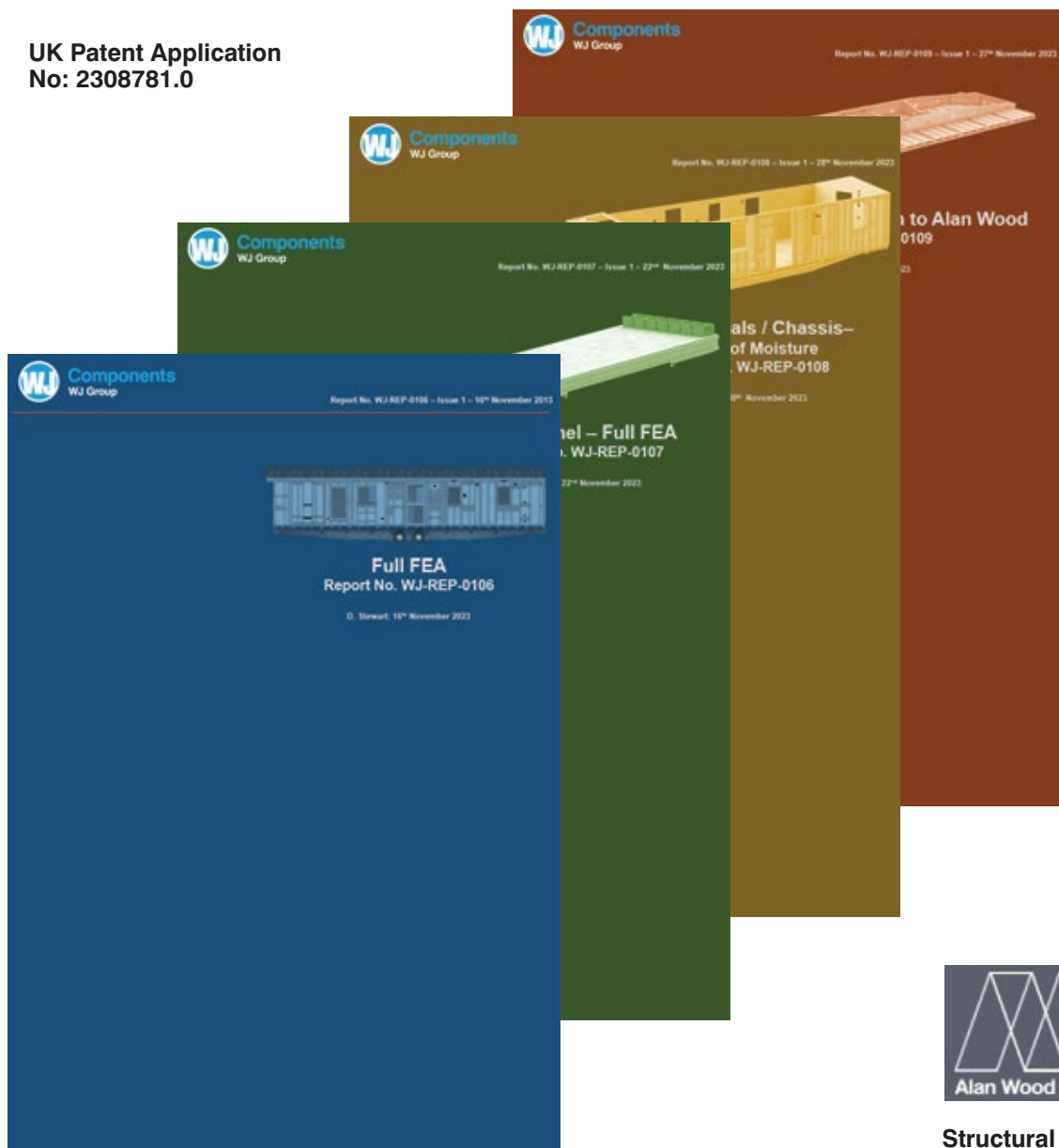
Throughout the development of the chassis, we have had constant on-going testing periods providing us with vital data to move forward with.

In order to fully validate the structural integrity of the chassis under loading conditions, multiple forms of analysis were conducted. These were carried out both internally and externally. Reports are available upon request.



Intellectual
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UK Patent Application
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Structural Engineer
Consultants

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