

# Product Data Sheet



## BioStud: hemp-based wall stud

BioTwin has developed a high-performance wall stud made from hemp fibre, hemp shiv, and a binder with no added formaldehyde and low VOC. BioStud is a swap for steel in non-loadbearing partitions and is currently 71.5% lower in embodied carbon than common steel alternatives.

### Application

The BioStud is a direct replacement for C-section steel studs in non-loadbearing partitions. They provide vertical framing support for wallboards and slot into the head and base U steel channels.

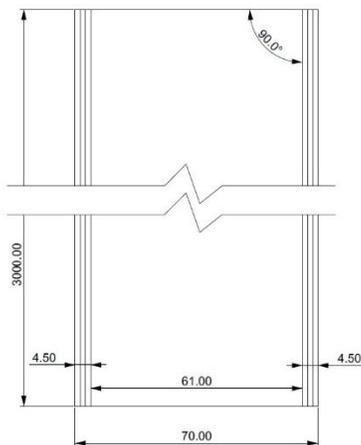


### Key Benefits

- 71.5% lower in carbon than conventional steel studs
- Acoustic and thermal enhancement
- Excellent tensile strength

### Product Information

Length: 2500mm	Weight: 0.62kg/lm
Width: 70mm	Storage: Indoors and kept in dry conditions
Thickness: 4 – 5mm	



## Performance Verified by BRE

The following tests have been conducted at BRE Global, Watford facility.

### Fire resistance

- Tested with single layer of British Gypsum Gyproc Fireline 15mm plasterboard in accordance with BS EN1364-1:2015. Achieved system fire resistance classification of EI 60 in accordance with EN13501-2:2023.
- Tested with double layer of British Gypsum Gyproc Fireline 15mm plasterboard in accordance with BS EN1364-1:2015. Achieved system fire resistance classification of EI 120 in accordance with EN13501-2:2023.

### Acoustic sound insulation

- Measurement of airbourne sound insulation were made in accordance with BS EN ISO 10140-1:2021 & BS EN ISO 10140-2:2021.
- Across the tests, there was a 1-2 decibel improvement with the use of BioStuds versus British Gypsum C steel studs.

Partition Type	RW (dB) for BioStud	RW (dB) for British Gypsum C Steel Stud
1x 15 mm Fireline with empty cavity	40 (-2; -8)	38 (-2; -7)
1x 15 mm Fireline with 25 mm mineral wool	45 (-3; -10)	44 (-2; -7)
2x 15 mm Fireline with 25 mm mineral wool	55 (-3; -10)	53 (-3;-10)
2x 15 mm Fireline with empty cavity	49 (-2; -8)	47 (-3;-9)
1x 12.5 mm Wallboard with empty cavity	37 (-2; -8)	35 (-1;-7)
1x 12.5 mm Wallboard with 25 mm mineral wool	43 (-4; -12)	42 (-4; -12)
2x 12.5 mm Wallboard with 25 mm mineral wool	52 (-4; -12)	51 (-3; -10)
2x 12.5 mm Wallboard with empty cavity	45 (-2; -8)	44 (-2; -7)

Results relate to tested wall assemblies only.

## Use, Scope & Compliance

BioStud is intended for use as a component within non-loadbearing partition wall systems only.

Fire and acoustic performance has been assessed through independent testing of complete wall assemblies in accordance with relevant European standards, including BS EN 1364-1 (fire) and BS EN ISO 10140 (acoustics). Classifications apply only to the tested system configurations.

BioStud does not carry standalone product certification and must be used within wall systems designed and installed in accordance with tested configurations or project-specific engineering.

The product is not suitable for loadbearing, external, or primary structural applications. Wall height, stud spacing, and performance depend on the complete wall build-up and installation quality. Typical stud spacing is 600 mm centres, unless otherwise justified.

Lateral load (serviceability): Full-scale partition lateral load testing completed at BRE, including 3.6 m and 4.6 m high partitions (4-point bend). Results available on request.

## **Installation**

BioStud is installed in a similar manner to conventional light gauge steel studs using standard drywall construction practices.

It can be cut or drilled on site using standard woodworking tools. A 20 mm diameter hole may be drilled for services, centred in the stud, following standard good practice.

For detailed fixing, splicing, and installation guidance, refer to the BioStud Fixing & Splicing Guide.

## **Durability & Use Environment**

BioStud is intended for use in internal, dry, and conditioned environments typical of commercial, residential, and institutional buildings.

The hemp fibres are encapsulated within a composite matrix designed for dimensional stability under normal internal service conditions.

The product is not intended for external use or environments subject to prolonged moisture exposure. Appropriate wall linings and finishes should be used to ensure the system remains dry throughout its service life.

## **Notes and Disclaimer**

The information contained in this document is based on testing, assessments, and data available at the time of publication and is provided in good faith. BioStud is intended for use in non-loadbearing internal partition systems only and must be installed in accordance with tested system configurations and recognised good practice.

Performance values relate to specific tested wall build-ups and may vary depending on site conditions, installation quality, and associated components. BioTwin Limited accepts no responsibility for performance where products are used outside their intended application or in untested assemblies.

Designers, contractors, and specifiers remain responsible for ensuring compliance with applicable building regulations, standards, and project-specific requirements. BioTwin Limited reserves the right to amend product specifications without prior notice as part of ongoing product development.