Sustainability Statement

Metal Pattress vs Timber / Plywood Backer

Supporting UK Net Zero, ESG and Part Z Objectives

1. Policy context

The UK has a legally binding commitment to achieve **net zero greenhouse gas emissions by 2050**. As operational energy use reduces through regulation (e.g. Part L), **embodied carbon associated with construction materials is becoming an increasingly significant proportion of total emissions**. [ukgbc.org], [publicatio...liament.uk]

In response, industry-backed frameworks such as:

- **RICS Whole Life Carbon Assessment for the Built Environment**
- **UK Net Zero Carbon Buildings Standard (UKNZCBS)**
- The proposed **Building Regulations Part Z**

are placing growing emphasis on **material efficiency, durability, and whole-life carbon performance**, including end-of-life outcomes. [oneclicklca.com], [part-z.uk]

This document assesses the sustainability performance of **metal pattresses (steel backers)** compared with **timber or plywood backers** used behind plasterboard walls, within this emerging regulatory and ESG context.

2. Application and scope

Metal pattresses and timber backers are secondary internal components used to provide fixing support for:

- Kitchen wall units
- Radiators
- Sanitaryware
- Cabinets, shelving, and similar loads

This assessment focuses on **material choice and system performance** for these concealed elements and does **not** compare primary structural systems.

3. Material efficiency and whole-life carbon principles

Metal pattress

- Purpose-designed to deliver fixing capacity using minimal material.
- High strength-to-weight ratio enables **material reduction at source**, a recognised whole-life carbon reduction strategy.
- Manufactured with consistent performance, reducing the need for conservative oversizing.

Timber / plywood backer

- Commonly installed as generic sheets or solid noggings.
- Often oversized to mitigate variability in timber strength and site conditions.
- Higher material volumes increase upfront embodied carbon and resource use.

Alignment with UK Net Zero & Part Z:
Reducing material quantities aligns with **whole-life carbon reduction principles** under BS EN 15978 and proposed Part Z requirements to minimise embodied emissions at the product and construction stages (A1–A5). [adwdevelopments.com], [oneclicklca.com]

4. Durability, longevity and ESG performance

Metal pattress

- Resistant to moisture, rot, insect attack, and dimensional movement.
- Maintains performance for the full service life of the building.
- Reduces risk of early replacement or remedial works.

Timber / plywood backer

- Susceptible to moisture-related degradation and delamination.
- Performance dependent on workmanship and long-term environmental conditions.

ESG relevance:
Improved durability supports:

- **Environmental (E):** Lower lifecycle emissions due to reduced replacement.
- **Social (S):** Improved safety and performance reliability.
- **Governance (G):** Reduced long-term asset risk and maintenance liability.

Whole-life performance is increasingly expected in ESG-led procurement and reporting. [ukconstruc...blog.co.uk], [insights.aecom.com]

5. Fire performance and material transparency

Metal pattress

- Non-combustible.
- Does not contribute to internal fire load.
- No requirement for chemical fire-retardant treatments.

Timber / plywood backer

- Combustible.
- Contributes to fire load and may require additional protective measures.

UK Net Zero & ESG alignment:
Avoiding additional treatments and secondary materials supports **resource efficiency** and improves transparency within whole-life carbon assessments. [assets.pub...ice.gov.uk]

6. Circular economy and end-of-life outcomes

Metal pattress

- Steel is **100% recyclable** with no loss of quality.
- Widely recovered and reprocessed at end of life.
- Compatible with circular economy principles promoted by UKGBC and Part Z.

Timber / plywood backer

- Often bonded with resins and adhesives.
- Rarely recovered for reuse.
- Commonly down-cycled or disposed of at demolition.

Alignment with Part Z and ESG:
Part Z and UKGBC guidance emphasise **end-of-life recovery and circularity (Module D)** as key components of whole-life carbon reduction strategies. [oneclicklca.com], [ukgbc.org]

7. Construction efficiency and waste reduction

Metal pattress

- Off-site manufactured to fixed dimensions.
- Minimal on-site cutting.
- Steel off-cuts are easily segregated and recycled.

Timber / plywood backer

- Frequently cut on site.
- Generates mixed waste streams.
- Timber waste is often unsuitable for recycling.

Net Zero relevance:
Reducing construction waste contributes to lower emissions at the construction stage (A5), a focus area within whole-life carbon assessments. [decerna.co.uk]

8. Embodied carbon statement (important clarification)

It is recognised that **sustainably sourced timber can exhibit lower upfront embodied carbon** at the material production stage when assessed in isolation.

However:

- Embodied carbon is **only one component** of whole-life carbon.
- Timber backers are typically concealed, non-recoverable, and replaced infrequently.
- Metal pattresses offer **longer service life, full recyclability, and reduced material volumes**.

Specifier guidance:
Material selection should be based on **project-specific whole-life carbon assessments**, in line with **RICS, BS EN 15978, UKNZCBS, and emerging Part Z requirements**, rather than upfront embodied carbon alone. [istructe.org], [oneclicklca.com]

9. Summary for specifiers

Metal pattresses support UK Net Zero, ESG, and Part Z objectives by:

- Reducing material use through efficient design
- Improving durability and asset longevity
- Eliminating combustible and treated timber elements
- Supporting circular economy outcomes at end of life
- Reducing construction waste and remediation risk

For plasterboard wall applications requiring reliable fixing support, **metal pattresses represent a low-risk, future-ready specification choice** aligned with the direction of UK regulation and sustainability reporting.