Direct Comparison: Plywood Pattressing vs. Steel Pattressing

(Prepared for design, specification and H&S justification)

1. Health & Safety

Plywood Pattressing

- Cutting, drilling and sanding plywood generates **high levels of wood dust**, which HSE identifies as a major respiratory hazard. Wood dust is a **sensitiser and, in the case of hardwoods, a Group 1 carcinogen**.
- Plywood contains **formaldehyde-based adhesives**; dust exposure and handling may release irritants linked to respiratory issues.
- Handling large sheets presents **manual handling injury risks** due to weight and awkward size. [fstrade.co.uk]

Steel Pattressing

- No wood dust generated—**eliminates carcinogenic and sensitising dust exposure risks**.
- No resin, chemical or species-based toxicity concerns.
- Typically lighter per unit area and more stable in shape, **reducing manual handling strain** compared to heavy plywood sheets.

2. Fire Performance

Plywood Pattressing

- Timber products are combustible and can influence **fire growth and performance**, depending on species and moisture content.
- Adding timber behind plasterboard may **invalidate fire test certification** unless the system has been specifically tested with timber in place.

Steel Pattressing

- Steel is **non-combustible** and does not contribute to fire load.
- Far more straightforward to maintain **compliance with fire-tested wall systems**, as steel does not alter fire behaviour of the assembly.

3. Dimensional Stability & Performance

Plywood Pattressing

- FIS inspections have found **bowing of walls and cracked tiles**, traced back to moisture-related movement of plywood. [british-gypsum.com]
- Requires **conditioning before installation** to avoid expansion or contraction on site.
- Installation often requires cutting into narrow strips → increases dust, noise, and alignment issues.

Steel Pattressing

- Steel does **not warp, swell, or shrink** with humidity changes.
- Maintains fixing alignment long-term; ideal for supporting cabinets, radiators and TV brackets.
- Pre-formed or cut-to-fit steel sheets reduce on-site alteration and eliminate movement-related defects.

4. Installation Practicality

Plywood Pattressing

- Cutting to fit between studs generates large amounts of dust and noise.
- Requires pilot-drilling and is prone to **splitting at edges**.
- Storage on site can create **falling-board hazards** if stacked poorly. [librasystemsuk.com]

Steel Pattressing

- Faster installation; can be supplied **pre-galvanised, pre-cut, and lightweight**.
- Easy to secure using drywall screws or any other screw
- Safe and clean to work with—**no dust, no splitting, no moisture considerations**.

5. Health, Environmental & Compliance Considerations

Plywood Pattressing

- Classified wood dust requires strict **COSHH controls**, LEV extraction, RPE, and ongoing health surveillance for workers. [mykitchens...list.co.uk]
- Potential formaldehyde emissions from adhesives present additional compliance burdens. [JXXXZ18-MB...S-X-500068 | PDF]

Steel Pattressing

- No COSHH dust extraction required for cutting (if pre-cut/no abrasive cutting).
- Fully recyclable, with stable long-term performance.
- Fewer health surveillance requirements and easier compliance during inspections.

6. Long-Term Reliability

Plywood Pattressing

- Susceptible to moisture ingress, warping and fixings pulling out over time.
- Load performance changes with age, humidity and temperature.

Steel Pattressing

- Consistent, predictable structural performance throughout lifespan.
- Ideal for high-load applications (kitchens, accessible bathrooms, commercial fit-outs).
- No degradation, rot, swelling or backing failure.

Conclusion: Why Steel Pattressing Is the Superior Choice

Switching from plywood to steel pattressing provides clear advantages in **health & safety, fire performance, durability, compliance, and installation efficiency**. Steel eliminates the HSE-identified hazards associated with plywood dust and storage, avoids moisture-related failures, and delivers a non-combustible, dimensionally stable backing for secure long-term fixings.