

FP Wall: Comparative Summary

Mortars and Board Systems

1. FP Wall vs. Insulating Mortars – Technical & Economic

Technical Comparison

- **Thermal conductivity (λ):** FP Wall = 0.048 W/m·K vs. insulating mortars = 0.07–0.09 W/m·K → FP Wall insulates better.
- **Weight:** FP Wall is 150–160 kg/m³, making it 2–3× lighter than insulating mortars (~350–400 kg/m³).
- **Layer thickness:** FP Wall can be applied in a single layer up to 15 cm, or up to 40 cm with formwork, while insulating mortars allow only 8–10 cm.
- **Fire safety:** FP Wall has an A2-s1-d0 fire rating, significantly higher than insulating mortars.

Economic Comparison

- **FP Wall** cost/m² both at 10 cm thickness and at 15 cm thickness is 30–40% cheaper per m² than insulating mortars, while performing better.

2. FP Wall vs. Insulation Boards (EPS, XPS, Rockwool)

Detailed Cost Comparison (Material + Labor) – Example at 10 cm thickness for 100 m²

Category	FP Wall (€)	EPS/XPS (€)	mineral wool (€)
Material cost (€/m ²)		+53.28%	+57.29%
Labor cost (€/m ²)		+23.85 %	+38.27 %
Total cost (€/m ²)		+38.30 %	+47.55 %
Δ vs FP Wall (%)		+38.3%	+47.6%

Summary of Findings:

- EPS/XPS in average 30-40% more expensive than **FP Wall**
- Rockwool in average 40-50% more expensive than **FP Wall**
- **FP Wall** is the lowest-cost option, while also delivering superior fire safety, recyclability, acoustic insulation, no waste or cold bridges.

3. FP Wall – Consolidated Unique Selling Points (USP)

Technical Advantages

- **High insulation:** $\lambda = 0.048 \text{ W/m}\cdot\text{K}$, better than typical insulating mortars.
- **Lightweight:** $150\text{--}160 \text{ kg/m}^3$ (2–3× lighter than standard mortars).
- **Single layer:** Up to 15 cm (40 cm with formwork).
- **Fire resistance:** A2-s1-d0 (superior to EPS, which is E/F class).
- **Acoustic insulation:** +14 dB at 500 Hz.
- **Durability:** **Hydrophobic, vapour-permeable, and rodent-resistant.**

Practical Advantages

- **Zero cutting waste:** Boards lose ~15% on-site; **FP Wall** has none.
- **100% recyclable:** Compared to 30% for EPS and 0% for mineral wool.
- **Easy application:** Uses standard plastering equipment, no special tools needed.
- **No anchors, no cold bridges:** Unlike board systems.
- **Moisture tolerance:** Can be applied on damp substrates, ideal for renovations.
- **Faster installation:** One layer instead of 5–6 layers for boards.

Economic Advantages

- **Mortars:** **FP Wall** is 30–40 % cheaper per m^2 at the same U-value.
- **Boards:** Cheaper than Rockwool and competitive with EPS/XPS.
- **Lifecycle benefits:** No waste, fully recyclable, lower carbon footprint.

4. Positioning Statement

FP Wall combines 0.048 λ -value, A2 fire rating, acoustic insulation, and vapor openness in a single monolithic layer (15–40 cm), replacing both insulating mortars and board systems.

- “One layer replaces five.”
- Cheaper than mineral wool, safer than EPS, faster than mortars.
- No waste, no cold bridges, 100% recyclable.

