

FP Floor/Roof: Comparative Summary

Flat Roof and Thermal Screed Applications

1. FP Floor/Roof vs. Flat-Roof Insulation Mortars and Screeds – Technical & Economic

Technical Comparison

- Thermal conductivity (λ): **FP Floor/Roof = 0.057 W/m·K vs. flat-roof screeds = 0.06–0.08 W/m·K**
→ **FP Floor/Roof performs better than most mineral screeds and approaches EPS screeds while remaining non-combustible.**
- Bulk density: **FP Floor/Roof = 170–180 kg/m³ vs. competitors = 250–400 kg/m³** → 50-120% lighter, **allowing thicker layers without structural penalties.**
- Layer thickness: **FP Floor/Roof can be poured up to 400 mm** in a single application, **enabling slope formation and monolithic roofs. Competing mortars typically allow 100–200 mm only.**
- Compressive strength: **0.20 N/mm² vs. 0.05–0.25 N/mm²** → **FP Floor/Roof offers equal or superior strength to standard insulating screeds.**
- Water vapor diffusion (μ): **≈6 vs. 4–10** → **within the ideal breathable range, ensuring compatibility with roof membranes.**
- Fire safety: **A2-s1-d0 vs. E-B** → **FP Floor/Roof far exceeds the fire classification of conventional roof insulation mortars.**
- Hydrophobic behaviour: **FP Floor/Roof is water-repellent and non-absorbent, protecting thermal performance even under humidity or intermittent wetting.**

Economic Comparison

Compared to alternative solutions, **FP Floor/Roof remains a highly cost-efficient A2-class flat-roof insulation material.** Products with comparable fire performance typically cost 200–300% more, while EPS-granulate screeds (E class) are combustible and non-circular. With a **thermal conductivity of $\lambda = 0.057 \text{ W/m·K}$** , **FP Floor/Roof provides an effective balance of thermal performance, cost, and fire safety.**

Revised Economic Summary (10 cm Layer Example)

Item	FP Floor/Roof (€)	Mineral wool (boards) (A2-class) (€)	EPS boards (EPS-granulate screed) (€)
Material cost (€/m ²)		326 %	196%
Labor cost (€/m ²)		300%	200%
Total cost (€/m ²)		307%	210%
Δ vs FP Floor/Roof		+200%+	+100%+

In comparisons FP Floor/Roof remains 60–70% cheaper than Mineral wool boards, 45–55% cheaper than EPS/XPS systems, and 70–80% cheaper than premium roof screeds.

2. FP Floor/Roof vs. Roof Insulation Boards (EPS, XPS, Mineral Wool)

Parameter	FP Floor/Roof	EPS / XPS Boards	Mineral Wool Boards
Thermal conductivity (λ)	0.057	0.030–0.035	0.035–0.040
Fire class	A2-s1-d0	E/F	A1–A2
Weight / Density	170–180 kg/m ³	25–45 kg/m ³	120–180 kg/m ³
Water behaviour	Hydrophobic, water-repellent	Absorbs at joints	Absorbent; needs dry assembly
Vapour openness (μ)	≈6	≈40–100	≈2–5
Application method	Single layer pour or pump	Adhesive + anchors	Anchors + multi-layer
Waste / recyclability	No cutting waste; fully recyclable	5–15% waste	Difficult to recycle

FP Floor/Roof is cheaper than mineral wool, safer than EPS/XPS, and faster to install. It replaces multi-component roof systems with a single monolithic layer.

3. FP Floor/Roof – Consolidated Unique Selling Points (USP)

Technical Advantages

- **Non-combustible (A2-s1-d0)** – compliant for all roof insulation layers under membranes.
- **Excellent $\lambda = 0.057 \text{ W/m}\cdot\text{K}$** – comparable to EPS screeds, superior to most mineral systems.
- **Hydrophobic and water-repellent** – ensures long-term durability even under humid conditions.
- **Vapour-open ($\mu \approx 6$)** – prevents trapped moisture and condensation.
- **High buildability** – single-layer pour up to 400 mm; can form falls and insulation simultaneously.
- **Lightweight ($\sim 200 \text{ kg/m}^3$)** – low structural load on roof decks.

Practical Advantages

- **Zero cutting waste** – no offcuts as with boards.
- **100% recyclable and circular** – fully mineral composition.
- **No cold bridges** – no anchors or joints.
- **No special tools required** – standard screed or pump machinery.
- Fast installation – applied in one operation.
- Compatible with all waterproofing systems – bituminous, PVC, TPO, or liquid membranes.

Economic Advantages

- **Cheaper lifecycle** – no waste, reduced labour, recyclable at end-of-life.
- **No adhesives or fixings** – reduced logistics and installation time.

4. Positioning Statement

FP Floor/Roof offers a monolithic, hydrophobic, non-combustible roof insulation system with $\lambda = 0.057$ W/m·K, $\mu \approx 6$, and thickness up to 400 mm, replacing combustible EPS screeds and mineral boards in a single pour.

“A2 fire class at the price of E systems.”

- “One pour forms insulation and slope.”
- “No waste, no fixings, no cold bridges.”
- “Fully recyclable, hydrophobic, and cheaper than competitors”

Conclusion

FP Floor/Roof defines a new class of circular, monolithic, A2-class roof insulation that is both economically viable and technically superior to any conventional roof-screed or board system. Among competitors **FP Floor/Roof** remains the most **cost-efficient non-combustible** roof insulation system available — **combining fire safety, hydrophobic durability, ease of installation, and total recyclability in a single-layer application.**

