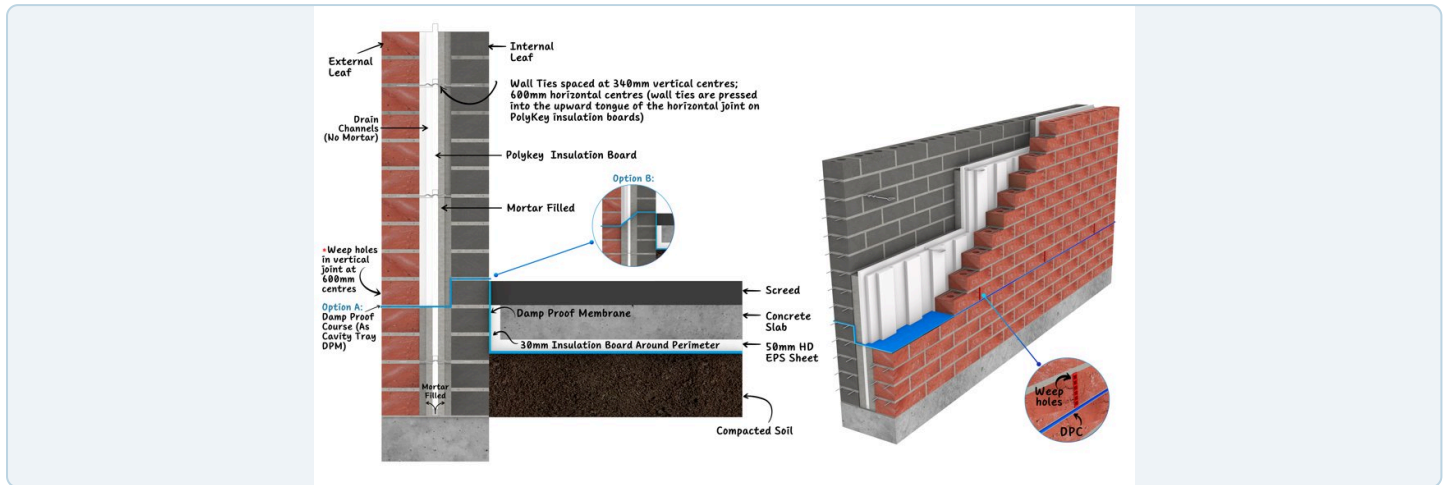


PolyKey Cavity-Wall Insulation

Interlocking fire-retarded EPS that insulates the cavity, ties the leaves and blocks cold bridges.



Overview

PolyKey is Technopol's EPS cavity-wall insulation for double-skin (double-leaf) brick and blockwork. Precision-cut, fire-retarded FRcEl EPS elements are built into the cavity as the outer face-brick leaf goes up, sharply raising the external wall's thermal resistance (R-value) and helping the building meet SANS 10400-XA energy requirements. Two systems are offered: precision-cut Cavity Wall boards that fill the cavity, and the heavier-duty PolyKey element — tongue-and-groove on all edges so panels interlock with no shrinkage gaps, mortar cannot drop in and bridge the cavity, and the board keys into the brick courses to tie the two leaves together. Closed-cell EPS keeps penetrating water off the inner leaf, so the wall stays warm, dry and free of cold-bridge condensation — with no loose fill or separate batts.

Applications

- Double-skin (double-leaf) brick walls and cavity blockwork construction
- Energy-efficient new homes and commercial buildings targeting SANS 10400-XA
- Green-building upgrades and cavity retrofit insulation
- Coastal and exposed sites where moisture resistance matters (closed-cell EPS)
- Heavy-duty, commercial and industrial cavity walls (PolyKey interlocking system)
- Perimeter / foundation-wall insulation, including 50 mm HD EPS sheet under the slab
- Face-brick residential and estate construction

Benefits

- Continuous cavity insulation with no cold bridges — tongue-and-groove interlock leaves no shrinkage gaps
- The keyed element also ties the two brick leaves together and stops mortar droppings short-circuiting the cavity
- Moisture-resistant closed-cell EPS won't wick penetrating water through to the inner leaf, avoiding wet spots and condensation
- Helps external walls meet SANS 10400-XA; the interlocking PolyKey system gives a higher R-value per mm than a plain board
- Built in as the outer leaf goes up — no loose fill, no separate batts, no settling

Specifications

Systems	Cavity Wall board (precision-cut) & PolyKey tongue-and-groove interlocking element
Core material	Fire-retarded FRcEl / LiteCel EPS
Nominal density	20 kg/m ³ (20 g/l)
Thickness range	50 / 100 / 150 mm
PolyKey element size	~340 mm H × 1200 mm L, tongue-and-groove all edges
R-value — Cavity board	50 mm: 1.43 · 100 mm: 2.85 · 150 mm: 4.29 m ² ·K/W
R-value — PolyKey T&G	50 mm: 1.60 · 100 mm: 3.20 · 150 mm: 4.84 m ² ·K/W
Thermal conductivity (λ)	≤ 0.038 W/m·K (FRcEl EPS; not separately declared for the cavity element)
Reaction to fire	FRcEl EPS core, B-s1,d0 class (no product-specific cavity-element test published)
Wall ties	2.5 ties/m ² per SANS — ~1.1 m centres, every 4th course (~340 mm)

Fire & compliance: The PolyKey core is Technopol's fire-retarded FRcEl EPS, which carries a B-s1,d0 reaction-to-fire classification (limited fire contribution, minimal smoke, no flaming droplets) and is fully encapsulated within the masonry cavity between two brick leaves. This is a reaction-to-fire class, not a fire-resistance (integrity/insulation) rating, and no product-specific fire test has been published for the cavity element itself.

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