









# LiteClad — Engineering Specification & Technical Data Sheet

LiteClad is Technopol's EIFS in metal — roof and wall finishing in metal. Continuous external EPS insulation is fixed over the substrate, a galvanised top-hat rail / batten is set over it, and a roll-formed, pre-painted steel profile is screwed or clipped to the rail as the weatherskin. The painted-metal profile is the finish, so the system delivers an external insulation (EIFS) build-up "in metal" without a wet render coat — the steel is not bonded to the insulation. Six roll-formed profiles cover external wall cladding, selected roofing and ceiling applications. Insulation, structural and fixing values below; spans and wind-uplift capacity are the responsibility of the project engineer.

## Product & dimensional data

<b>Product</b>	LiteClad — EIFS: roof and wall finishing in metal (an external insulation & finish system delivered in metal). The 0.5 mm steel profile is the weatherskin and architectural finish over a separate external EPS insulation layer
<b>Construction</b>	Continuous external EPS insulation fixed over the substrate; a galvanised top-hat rail / batten over the insulation; the 0.5 mm roll-formed pre-painted steel profile screwed or clipped to the rail as the weatherskin. The painted-metal profile is the finished surface — no render/plaster coat (unlike a plastered ETICS). The steel is NOT bonded to the insulation
<b>Build-up (outside → in)</b>	LiteClad steel profile   top-hat rail / batten   external EPS board   substrate (masonry, or LSF with sheathing)
<b>Steel profile</b>	0.5 mm PPGL (pre-painted AZ150 Galvalume) or PPGI (pre-painted Z200 galvanised) steel — Chromadek or equivalent
<b>External insulation</b>	Continuous external EPS board — LiteCel standard, or FRCel fire-retardant on request; thickness set to the R-value target
<b>FRCel EPS</b>	$\lambda \leq 0.038 \text{ W/m}\cdot\text{K}$ · compressive strength $\geq 70 \text{ kPa}$ · service $-40$ to $+75 \text{ }^\circ\text{C}$ · density $15 \text{ kg/m}^3$ standard (20 / 30 available; FRCel grades span 12–30 $\text{kg/m}^3$ )
<b>Standard colours</b>	8 standard RAL colours (below); further colours to order
<b>Insulation thickness</b>	Set to the thermal target; 50 / 100 / 150 mm installed R-values published (below). Confirm the standard EPS board menu with Technopol
<b>Sister products</b>	LiteSpan factory-laminated steel-faced EPS sandwich panel and LiteCore EPS-block walling are separate product lines

## Standard colour range

 <b>Frost White</b> RAL 9016	 <b>Sandstone Beige</b> RAL 1002	 <b>Dove Grey</b> RAL 7042	 <b>Quartz Grey</b> RAL 7039	 <b>Basalt Grey</b> RAL 7012	 <b>Dark Dolphin</b> RAL 7031	 <b>Anthracite Grey</b> RAL 7016
 <b>Signal Brown</b> RAL 8002						

On-screen colours are indicative only — the RAL number governs; request physical samples before final selection.

## Profile range

Profile	Cover width (mm)	Fixing	Orientation	Application
Standing Seam (Narrow / Wide)	282 / 495	Concealed holding clips — seamed-in, hidden	Vertical or horizontal	EIFS · wall cladding · roofing
IBR Wide	990	Roof screws — through-fixed, visible	Vertical or horizontal	EIFS · wall cladding · roofing
DutchClad	293	Wafer screws — through-fixed, hidden	Horizontal lapped (weatherboard)	EIFS · wall cladding
ClipClad	270	Wafer screws — through-fixed, hidden	Vertical or horizontal	EIFS · wall cladding · roofing
Corrugated	990	Roof screws — through-fixed, visible	Vertical or horizontal	EIFS · wall cladding · roofing
NuClad	490	Wafer screws — through-fixed, hidden	Wall / ceiling	EIFS · wall cladding · ceiling

Cover width is the effective installed coverage per panel. "Concealed / hidden" fixings are not visible on the finished face; "visible" fixings are through the profile crown. Roofing-rated profiles require a minimum roof pitch — confirm with Technopol.

### Installed R-value — FRCel EPS

EPS thickness (mm)	Installed R ( $\text{m}^2\cdot\text{K/W}$ )
50	1.62
100	2.95
150	4.40

Installed thermal resistance of the external EPS insulation, FRCel grade.

### NuClad ceiling boards — 15 $\text{kg/m}^3$ EPS

Board (core) mm	U ( $\text{W/m}^2\cdot\text{K}$ )	R ( $\text{m}^2\cdot\text{K/W}$ )
40 (35)	1.06	1.25
60 (50)	0.75	1.68
100 (80)	0.46	2.50

Board thickness (nominal core) with U-value and thermal resistance R.

## Design, fixing, handling & QA

### Selection & design

- Choose the profile by application and appearance: **Standing Seam** for a flush, concealed-clip seamed façade; **IBR Wide / Corrugated** where a visible through-fixed roof or wall is acceptable; **DutchClad** for a lapped weatherboard look; **ClipClad / NuClad** for a hidden-fix flat wall or ceiling
- The painted-metal profile is the finish — **no plaster / render coat** is required
- Select the external EPS insulation thickness to the thermal target using the installed R-value table
- **Spans, support centres, wind-uplift capacity and the fastener schedule are the project engineer's responsibility;** span & wind-uplift load tables and per-m<sup>2</sup> system weight are to be confirmed with Technopol
- For roofing-rated profiles observe the minimum roof pitch (confirm with Technopol) and detail end-laps / side-laps to shed water

### Fixing

- **Concealed-clip** (Standing Seam): holding clips fixed to purlins / rails, panels seamed in — no exposed fasteners
- **Through-fixed, visible** (IBR Wide, Corrugated): roof screws through the crown into structure with sealing washers
- **Through-fixed, hidden** (DutchClad, ClipClad, NuClad): wafer screws in the concealed lap / return
- Fix into sound structural steel / timber or rails; fastener type, length and spacing per the engineer and the substrate
- Maintain movement allowance; seal penetrations and terminations with compatible flashings

### Handling & installation

- Lightweight steel profiles and EPS boards — handled without heavy plant; protect painted faces and edges
- Cut with fine-tooth / metal-cutting tools; remove swarf promptly to avoid rust staining the paint finish
- Store dry, clear of the ground and out of standing water; remove protective film soon after installation
- Keep the EPS insulation away from open flame, hot works and solvents during construction
- Follow flashing, closure and sealant details at eaves, verges, corners and openings

### Quality assurance

- Confirm profile, cover width, colour (RAL) and EPS insulation grade (LiteCel / FRCel) on delivery
- Check the steel profile (PPGL AZ150 / PPGI Z200) and paint finish against specification
- Confirm the external EPS insulation thickness and that the insulation layer is continuous over the substrate
- Where FRCel is specified, confirm the fire-retardant EPS grade is supplied
- Inspect fixings for type, spacing and correct seating — no over- or under-driven fasteners

## Model specification clause (edit to project)

"External finishing shall be a **Technopol LiteClad EIFS-in-metal** system: continuous **external EPS insulation**, \_\_\_ mm [**LiteCel / FRCel fire-retardant**] ( $\lambda \leq 0.038$  W/m-K), fixed over the substrate; a galvanised **top-hat rail / batten**; and a **Technopol LiteClad** steel profile \_\_\_ (Standing Seam / IBR Wide / DutchClad / ClipClad / Corrugated / NuClad), cover width \_\_\_ mm, 0.5 mm pre-painted [**PPGL AZ150 Galvalume / PPGI Z200 galvanised**] steel in **RAL** \_\_\_ [colour], screwed or clipped to the rail as the weatherskin (the steel is not bonded to the insulation). Fixing shall be [**concealed holding clips / roof screws / wafer screws**] at centres to the engineer's fastener schedule, with all flashings, closures and sealants to suit. Where a fire-retardant grade is required, the FRCel EPS classified **B-s1,d0** to SANS 53501-1 shall be supplied. Spans, support centres and wind-uplift capacity shall be as designed and confirmed by the project engineer."

### Fire performance — two distinct classifications, kept separate.

**(a) Reaction-to-fire (material).** The FRCel EPS insulation is classified **Class B-s1,d0** to SANS 53501-1 (Ignis Testing report IT 23-08-00009). This is a reaction-to-fire *material* class — **not** a fire-resistance (minutes) rating.

**(b) Fire resistance (assembly).** The **NuClad LiteCore LSF Wall System** achieved **REI 60** — 60 minutes for Stability (R), Integrity (E) and Insulation (I) — tested to SANS 10177-2 by Fire Testing Services (CSIR Pretoria), report FT 24/003 Issue 2, 22 April 2024, valid ~5 years. This rating applies to **that specific tested wall system** (external render + mesh / LiteCore 100 mm / LSF 91 mm frame / NuClad 30 mm cladding), not to a bare profile. Full test report available from Technopol on request.

**Compliance & scope.** LiteClad carries **no Agrément certificate** (Agrément 2020/609 applies to LiteCore only) and is not marketed with certification logos. Structural design is by the project engineer. Confirm minimum roof pitch, per-m<sup>2</sup> system weight, span / wind-uplift tables and the standard EPS-thickness menu with Technopol.

Profiles, colours, insulation options & project support — info@technopol.co.za · (011) 363-2780/1/2 · technopol.co.za