

LiteSpan Insulated Panels — Engineering Specification & Technical Data Sheet

LiteSpan is Technopol's factory-laminated insulated sandwich-panel family: two 990 mm-cover roof profiles — **990 IBR** (wide-IBR top skin, exposed stitch-screw fixing) and **990 Standing Seam** (2 × 495 mm seam with hidden galvanised clips, seamed on site) — plus tongue-and-groove wall/ceiling panels, single-skin ceiling pans and a StoneWool range in Flat (1145 mm) and Deep-Profiled Roof (990 mm) formats. Cores are FRCell Fire-Retarded EPS (standard), EN 13162 StoneWool or Technopol PIR 32, faced with Chromadek or similar coated steel. Values below are verified against the current brochures, detail drawings and test reports; conflicting figures are flagged "confirm with Technopol" rather than merged.

Product & dimensional data

Product	LiteSpan — factory-laminated insulated sandwich panels for roof, wall and ceiling
Panel families	Roof: 990 IBR & 990 Standing Seam (990 mm cover) · Wall/ceiling: double tongue-and-groove (1145 mm cover; 990 mm T&G variant drawn) · Single-skin ceiling pans · StoneWool Flat (1145 mm) & DPR deep-profiled roof (990 mm)
Core options	FRCell Fire-Retarded EPS (standard) · StoneWool (EN 13162 mineral wool, 120 kg/m ³ , A1 core) · Technopol PIR 32 (32 kg/m ³ , $\lambda \leq 0.023$ W/m·K)
Facings	Chromadek or similar coated steel; Z / AZ / ZAM coatings; roof-panel underside white only
Facing thickness	0.3–0.58 mm (roof panels) · ≥ 0.5 mm (StoneWool panels)
Standard core depths	EPS roof 75 / 100 / 125 / 150 mm · StoneWool 50 / 75 / 100 / 150 mm · wall/ceiling & pans to customer spec
Panel length	Cut to order (function of core depth); ceiling elements to 6000 mm · maximum roof-panel length: confirm with Technopol
Ceiling pans	Single-skin white Chromadek upstand pan on FRCell EPS, 282 / 490 mm wide (widths vary across documents — confirm current pans)
Colour range	Standard: Frost White, Dove Grey, Sandstone Beige, Signal Brown, Quartz Grey, Anthracite Grey (6–8 across documents — confirm current palette); tops any standard colour, underside white only
Reaction-to-fire (core)	FRCell EPS B-s1,d0 (SANS 53501-1) · StoneWool A1 non-combustible (EN 13501-1) — reaction-to-fire, not a fire-resistance rating

Roof panels — 990 IBR & 990 Standing Seam (FRCell EPS core)

Property	990 IBR (FRCell EPS)	990 Standing Seam (FRCell EPS)
Cover width	990 mm	990 mm (2 × 495 mm seam, intermediate pleats)
Profile & fixing	Wide-IBR, 330 mm rib module (3 ribs), ~40 mm; exposed stitch-screw fixing	Standing seam; hidden 0.8 mm galvanised clips, seamed on site
Steel skin	0.3–0.58 mm	0.3–0.5 mm
Core depths	75 / 100 / 125 / 150 mm	75 / 100 / 125 / 150 mm
Installed R-value (m ² K/W)	75: 2.3 · 100: 3.0 · 125: 3.7 · 150: 4.4	Identical to 990 IBR
Underside	Flat or micro-pleated Chromadek — white only	Tongue-and-groove joint — white only
Max free span @ 1.6 kN/m ²	75: 2.5 · 100: 3.0 · 125: 3.5 · 150: 4.0 m	As 990 IBR — engineer to verify uplift

Current-brochure data. Max free span is at the published allowable factored load of 1.6 kN/m²; the negative (uplift) wind case must be checked by a competent engineer. Superseded 2021 span tables are not published here.

StoneWool panels — Flat & DPR (EN 13162 mineral-wool core)

Property	Flat panel (1145 mm)	DPR deep-profiled roof (990 mm)
Cover width	1145 mm	990 mm
Profile	Smooth / micro-pleated both faces	Deep-profiled roof; 44 mm flute, 330 mm trough module
Core	EN 13162 mineral wool, 120 kg/m ³ , A1 non-combustible	As Flat panel
Thicknesses	50 / 75 / 100 / 150 mm	50 / 75 / 100 / 150 mm
U-value (W/m ² K)	50: 0.70 · 75: 0.47 · 100: 0.35 · 150: 0.23	Identical to Flat
R-value (m ² K/W)	50: 1.43 · 75: 2.14 · 100: 2.86 · 150: 4.29	Identical to Flat
Steel skin	Coated galvanised steel ≥ 0.5 mm; Z / AZ	≥ 0.5 mm; Z / AZ / ZAM
Min roof pitch	—	4°

StoneWool wall max unsupported height (single source): 50 mm → 3400 · 75 mm → 4600 · 100 mm → 5700 mm; ceiling max span 50 mm → 2640 · 75 mm → 4100 · 100 mm → 5400 mm (IPMA mineral-fibre walk-on basis). Panel self-weight ≈ 13.6 – 23 kg/m² by thickness/skin (sources differ) — confirm with Technopol. 125 mm StoneWool is not offered in these sources.
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Design, fixing, handling & QA

Design basis

- Panels act as one-way spanning sandwich elements; use the published allowable-stress (ASD) load-span chart for the EPS roof panels (IBR & SS share one chart), spans 1.8–4.0 m, single / two / three-plus span
- EPS roof max free span at 1.6 kN/m²: 75 → 2.5 · 100 → 3.0 · 125 → 3.5 · 150 → 4.0 m; the **negative (uplift) wind case must be checked by a competent engineer**
- StoneWool Flat & DPR allowable-load tables are **theoretical estimates (beam theory)** — carry the printed disclaimer and confirm by laboratory testing before relying on them
- Minimum support / bearing width **50 mm**; StoneWool DPR minimum roof pitch **4°**
- Governing SA reference: TPMA / AAAMSA cold-store-envelope specification (safety factors 1.50 live / 1.35 dead, deflection limit L/240) — an industry reference, not LiteSpan test data

Fire & compliance

- FRCell EPS core: **B-s1,d0** reaction-to-fire (SANS 53501-1, report IT 23-08-00009) — a reaction-to-fire class, not a fire-resistance rating
- StoneWool core: **A1** non-combustible (EN 13501-1)
- EPS is combustible; StoneWool FR wall / firewall reports on file but lapsed — request current reports (see compliance note)
- PIR: a 100 mm PIR 40 panel failed its SANS 10177-2 test — make no fire-resistance claim for PIR panels

Fixing & fastening

- **990 IBR:** stitching screws in every flute valley and peak; at walls, double 14 × 125 mm hex-flange tek screws + seal in each valley into 2 mm wall-plate angles throughbolted at 1.5 m; splices min 150 mm overlap, 50 mm bearing
- **990 SS:** hidden 0.8 mm galvanised clips (60 mm) at each purlin; on-site seaming after clipping; Class 4 self-drilling screws with seal
- **StoneWool DPR / Flat:** steel purlins, 50 mm min bearing, three fix-through Class 3/4 fasteners per support, end laps 150 mm, side laps stitched at 500 mm c/c; FR walls: steel (not aluminium) fixings, angles ≥ 1.6 mm, stainless rivets
- **Ceiling pans:** hung on rails with adjustable hangers from trusses — no battens

Handling & storage

- Store under cover, protect from UV, flat on pallets clear of the ground; weatherproof covering in transit
- StoneWool boards palletised — do not stack pallets; tarpaulin in transit

QA on delivery

- Confirm profile, core type, core depth, skin gauge / coating and colour against the specification each delivery
- Roof-panel underside is white only; verify end closures / flashings and fixing pattern before sheeting over

Model specification clause (edit to project)

"Insulated sandwich panels shall be Technopol **LiteSpan**, profile ___ (990 IBR / 990 Standing Seam / tongue-and-groove wall-ceiling / StoneWool Flat 1145 / StoneWool DPR 990), core ___ (FRCell Fire-Retarded EPS / StoneWool EN 13162 mineral wool 120 kg/m³ / Technopol PIR 32), core depth ___ mm, cover width ___ mm, with ___ mm coated-steel facings (Z / AZ / ZAM coating), top colour ___, underside white. Panels shall span ___ m over supports at ___ mm centres and be fixed by ___ (stitch screws in every IBR valley into wall-plate angles / hidden seam clips at each purlin with on-site seaming / self-drilling Class 4 fasteners with seal, three per support). The negative (uplift) wind case shall be verified by a competent engineer; minimum bearing 50 mm; StoneWool DPR roofs laid at minimum 4° pitch; side laps stitched and end laps 150 mm minimum. The FRCell EPS core shall hold a current SANS 53501-1 reaction-to-fire classification of B-s1,d0 and StoneWool cores shall be Euroclass A1. Where a fire-resistance rating is required, only StoneWool panels covered by a current (unlapsed) SANS 10177-2 test report shall be used, to the classification and application scope stated in that report."

Reaction-to-fire only. LiteSpan FRCell EPS is classified **B-s1,d0** to SANS 53501-1 (report IT 23-08-00009, 17 Aug 2023) and StoneWool cores are **Euroclass A1** — these are reaction-to-fire classifications, not fire-resistance (minutes) ratings, and EPS remains a combustible material. StoneWool FR30 / FR60 wall and FR120 firewall SANS 10177-2 reports exist on file but their laboratory five-year validity has lapsed: treat them as "test on file, revalidation pending" and request current reports rather than citing a current rating. No fire-resistance rating is claimed for organic-core (EPS / PIR) panels. LiteSpan is not an Agrément-certified line — the company's Agrément certificate 2020/609 applies to the LiteCore Building System only and is not claimed here.

Profile selection, panel schedules, detail drawings & project quotes — info@technopol.co.za · (011) 363-2780/1/2 · technopol.co.za