TECHNOPOL SA
ENERGY SAVING MATERIALS

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INSTALLATION GUIDE

Technoblock — moulded EPS slab blocks and void formers

A moulded expanded-polystyrene block laid between the pre-cast ribs of a one-way suspended concrete slab as permanent shuttering and lightweight void fill. It carries no load — the concrete ribs and topping do.

DOCUMENT	ISSUED	PRODUCT	STATUS
TP-IG-TECHNOBLOCKS	2026-07-15	technoblocks	Issued for use

BEFORE YOU START

Before the first block is placed: the supporting walls, beams or frame are complete, level and built to the engineer's bearing detail; the pre-cast lintels/ribs are on site with their delivery certificates; the engineer's slab drawing AND the propping / temporary-works method statement are both on site and current; and the blocks are delivered, counted by block, checked against the drawing (block type, depth, plan width, cores, extender thicknesses), stored off the ground and out of standing water, and strapped or weighted against wind. Measure a delivered block and set out to the measured size - both types are 550 mm across the ribs and 360 mm overall along the rib, on a 320 mm module, and both carry the 25 x 60 mm seating recess; they are not interchangeable in DEPTH (120 vs 190 mm). Planks or decking for rib-to-rib access must be on site BEFORE the first block goes down: nobody stands on a laid block.

TOOLS

- Scaffold planks or proprietary decking to span rib-to-rib — the only permitted access across a laid deck
- Fine-tooth panel saw or hand saw for trimming blocks; hot-wire cutter for shaped cuts
- Tape, chalk line, straight edge and spirit level
- Props, bearers and headplates per the engineer's temporary-works method statement
- Rebar tools: bar cutters and benders, tying wire, nips
- Mesh chairs and spacers for the topping mesh
- Water-based, EPS-compatible release agent and curing compound only — no solvent-based products anywhere near the blocks
- Broom and blower for cleaning the block tops before the pour
- Concrete depth gauge for checking topping thickness during the pour
- Hot-work permit control, fire extinguisher and a fire watch if any cutting, grinding or welding happens on or near the deck
- Standard PPE plus edge protection

SEQUENCE

1. Prop the deck first - before a single unit is laid

This deck is suspended. Until the concrete has gained strength there is nothing under it but the propping: the units and the lintels ARE the shuttering, they are never struck, and they carry no load at any stage.

Erect the propping to the engineer's temporary-works design before the lintels go down, and leave it in place until he releases it on tested strength. Every prop head lands on a rib, on a bearer spanning the ribs, or on the permanent works - NEVER on a block. A prop head bearing on an EPS unit will drive straight through it.

The temporary works are a design, not a habit. Propping centres, bearer sizes and the sequence of striking come off the engineer's method statement, not off the last job.

> **CHECK BEFORE MOVING ON**
>
> - The propping layout on site matches the engineer's temporary-works drawing.
> - No prop head lands on a block - every one is on a rib, a bearer or the permanent works.
> - The props are plumb, tight, laterally braced, and bear on a sound surface below.

2. Check the delivery against the design before anyone lifts a block

Open one bundle and physically measure a block: overall size, plan width, depth, core diameter and soffit-face width. Compare them with the engineer's drawing and the block schedule. Count the blocks, not the bundles — a bundle count is a packing figure, and a short delivery found on the deck is a lost day. Confirm the end-cap plugs and any extenders arrived in the specified thicknesses.

> **CHECK BEFORE MOVING ON**
>
> - Measured plan size matches the set-out: both types are 550 mm across the ribs x 360 mm along the rib on a 320 mm module, with a 25 x 60 mm seating recess each side (not interchangeable in DEPTH - 120 vs 190 mm)
> - Block depth matches the drawing (120 or 190 mm) and the block TYPE matches the drawing. The type is a question of VOID DEPTH, not of load - neither block carries anything.
> - Physical block count taken and signed off against the order
> - End-cap plugs on site in sufficient number for every core at every slab edge, opening and cut block
> - Extenders on site in the specified thicknesses (60 / 80 / 90 / 175 / 260 mm) if the drawing calls for them
> - Blocks stored off the mud, out of water, and strapped or weighted — an unweighted stack of EPS blocks will leave the site in the first strong wind

3. Set out and lay the prestressed lintels

Set out the rib centres from the engineer's drawing. The rib pitch is the 500 mm exposed soffit of the unit plus the width of the lintel - 660 mm on the typical detail.

Lay the rectangular prestressed concrete lintels onto the bearing detail and check the bearing at BOTH ends of every one. The lintel spans between the supports and carries the units, the wet concrete and the men on the deck until the topping has gained strength; the propping is what carries the lintel. Technopol does not supply or specify the lintel - its section, its prestress and its bearing are the engineer's design.

Lintels sit on the props erected in step 1. Nothing is laid on an unpropped lintel.

> **CHECK BEFORE MOVING ON**
>
> - Rib centres measured and correct along the full bay, not just at the first two ribs
> - Every lintel has its full bearing at both ends
> - Props erected, plumb, on sound bearing, wedged or pinned, at the specified spacing and level
> - No prop head or back-prop bearing on a block — all on ribs or permanent works
> - No prop bearing on ground that will soften when it rains

4. Dry-lay one full rib line before committing the bay

Lay a complete line of blocks along one rib, wall to wall, before laying the rest of the bay. A few millimetres per block compounds down the run, and the closing block is where it shows. If the line does not close, stop and settle the set-out with the engineer before going further. Do not force blocks in, and do not shave every block to make the run fit.

> **CHECK BEFORE MOVING ON**
>
> - The rib line closes out at BOTH ends, within the tolerance the engineer accepts
> - The block underside notch seats fully onto the top of the lintel along its whole length — no rocking, no daylight
> - The 500 mm soffit face is exposed and the rib gap is consistent along the whole line (160 mm on the typical detail, or as drawn)
> - Any closer block is cut cleanly and square with a saw — not broken, snapped or hacked
> - The dry-laid line is measured and the blocks/m2 checked at the drawing's rib pitch before the balance of the order is released

5. Lay the deck, working off planks from the start

Working from one edge, drop the blocks in between the lintels so the moulded faces seat tight against them. The blocks are light — this is hand work, no crane. Lay from planks or decking spanning rib-to-rib and advance the planks as you go: an EPS block spanning between ribs will punch through under a boot, a knee or a dropped bundle. Push each block hard up against its neighbour so the joints close — an open joint is a grout leak, and on a soffit that will be lined flush that leak becomes a permanent lump. Keep the soffit line true; a block sitting proud or low steps the ceiling.

> **CHECK BEFORE MOVING ON**
>
> - All access on planks or decking spanning rib-to-rib — nobody standing on a block, no wheeled plant, no materials stacked on blocks
> - Blocks tight against the lintels and tight against each other — no open joints
> - Soffit line flat across the deck (check with a straight edge spanning three ribs)
> - Block ends bearing on the wall sides at the perimeter, per the engineer's edge detail
> - Cut blocks around columns, openings and services fit snugly; gaps packed with off-cuts, not left open

6 6. Fit the end caps at every edge and opening (#190)

The three cores in a #190 run right through the block. Wherever a core is exposed — at slab edges, at openings, at a stair void, at a cut block — plug it. If you do not, concrete runs into the cores during the pour: you lose concrete, you gain unplanned dead load, and the topping can come up short of thickness because the mix went somewhere nobody budgeted for. End caps are supplied 6 free per 5 blocks; there is no reason to be short of them.

> **CHECK BEFORE MOVING ON**
>
> - Every exposed core plugged — walk the planks around the entire perimeter and every opening and count them
> - Cut blocks at edges also plugged, or the cut face sealed
> - Plugs pushed fully home so the pour cannot dislodge them

7 7. Extenders, services, rib steel and topping mesh

If extenders are specified, stack and secure them onto the #190 blocks before any steel goes down. Set them out and quantify them off the drawing, by the metre run of rib line to be deepened — an extender is 1.2-1.23 m long, a little under four block widths, so a blocks-covered rule of thumb will leave you short. Route conduits through the moulded electrical passages; do not hack new channels through the block webs. Place the rib reinforcement (2, 3 or 4 x Y12 per rib in a cage with links, on spacers, to the engineer's drawing). NO bar is threaded through a block core - the cores are service ways for conduit and pipework only, and no steel and no concrete goes in them. Lay the topping mesh (REF 193 on the typical detail) on chairs so it sits at the specified height within the topping, not lying on the EPS.

> **CHECK BEFORE MOVING ON**
>
> - Extender quantity and layout taken off the drawing by metre run of rib line
> - Extenders secured against floating and against being kicked out of line during the pour
> - Conduits in the moulded passages; no new channels cut through block webs
> - Rib steel in place with the specified cover. NO bar is threaded through a block core - the cores are service ways only
> - Topping mesh on chairs at the correct height with the specified laps — mesh lying flat on the EPS gives zero top cover and is the most common defect on this deck
> - Steel and mesh bundles landed on the ribs or on planked-out areas, never stacked on blocks

8 8. Pre-pour inspection of the whole deck

Immediately before the pour, walk the planks over the entire deck and inspect every block for punctures, tears, crushed edges and dislodged plugs. A hole in a block is a concrete leak into the void: the topping thins over that block and nothing is visible from above once the pour has moved on. Repair or replace damaged blocks now. Sweep the deck clean and confirm the hot-work exclusion is still in force — from the moment the blocks are laid until the topping covers them, the deck is exposed combustible material.

> **CHECK BEFORE MOVING ON**
>
> - Every block inspected from planks; punctured or crushed blocks replaced, not patched over
> - All end-cap plugs still home; all joints still closed
> - Deck swept clean of off-cuts, EPS beads, wire ends and standing water
> - No solvent-based release agent, primer or curing compound anywhere on the deck
> - Hot-work permit closed out: no grinding, welding, torch-on work or naked flame on or near the deck

9. Cast the structural topping

Cast the topping (65 mm on the typical detail) so the concrete fills the ribs monolithically around the rib steel. Place concrete evenly — do not heap it, and never build a wet-concrete surcharge on an unpropped span. Keep pump hoses and barrow runs on planks; never drag a hose across bare blocks. Vibrate the RIBS. Do not drive a poker into the EPS: it tears the block, concrete slumps into the void, and the topping thins out over that block with nothing visible from above. Use water-based, EPS-compatible curing compound only.

> **CHECK BEFORE MOVING ON**
>
> - Concrete placed evenly, no heaping, pour sequence per the method statement
> - Pump hose, barrow runs and all foot traffic on planks — never on the blocks
> - Poker in the rib zone only — never through the block face or the block top
> - Topping thickness checked with a depth gauge at several points in each bay AS the pour proceeds, not afterwards
> - No solvent-based release agent, primer, curing compound or bitumen anywhere on the deck

10. Cure, strike props, line the soffit

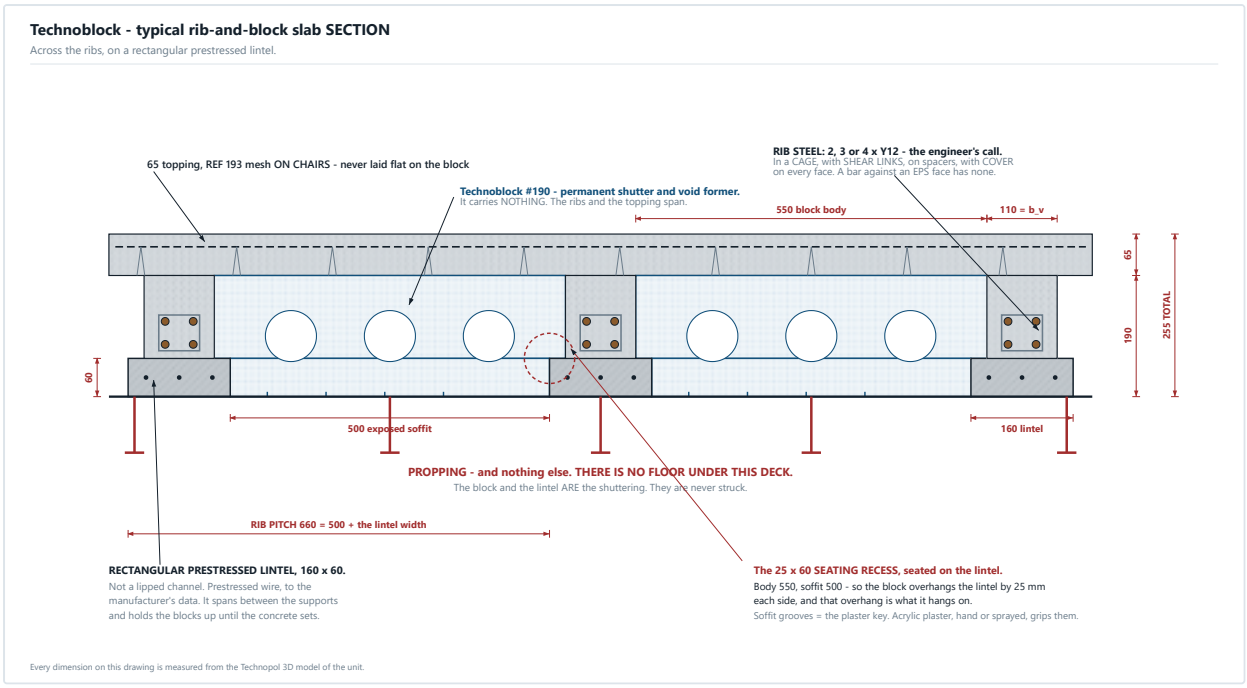
Cure the topping per the concrete specification. Strike the props only when and in the sequence the structural engineer's method statement permits — never on the strength of how solid the deck feels underfoot. Once the props are out, the soffit gets lined. The moulded grooves are a plaster key for a plaster or skim finish. Where the floor requires a fire rating or a limited-combustibility soffit, the lining is a rated ceiling system specified by the project fire engineer — plaster alone carries no fire-resistance rating. Either way the soffit ends up covered: the EPS is combustible and it does not stay exposed in the finished building.

> **CHECK BEFORE MOVING ON**
>
> - Props struck only per the engineer's written sequence and timing
> - Soffit clean, grout leaks cut back and block joints made good before lining
> - Soffit fully covered — no exposed EPS left anywhere in the finished building
> - Where a fire rating or a limited-combustibility soffit is required, the lining is the fire engineer's specified system, not a plaster coat
> - Any penetration cut through the finished slab afterwards is reinstated with a fire-stopping detail designed for a combustible-core void — do not leave a raw hole opening into the EPS

FIXINGS AND FASTENERS

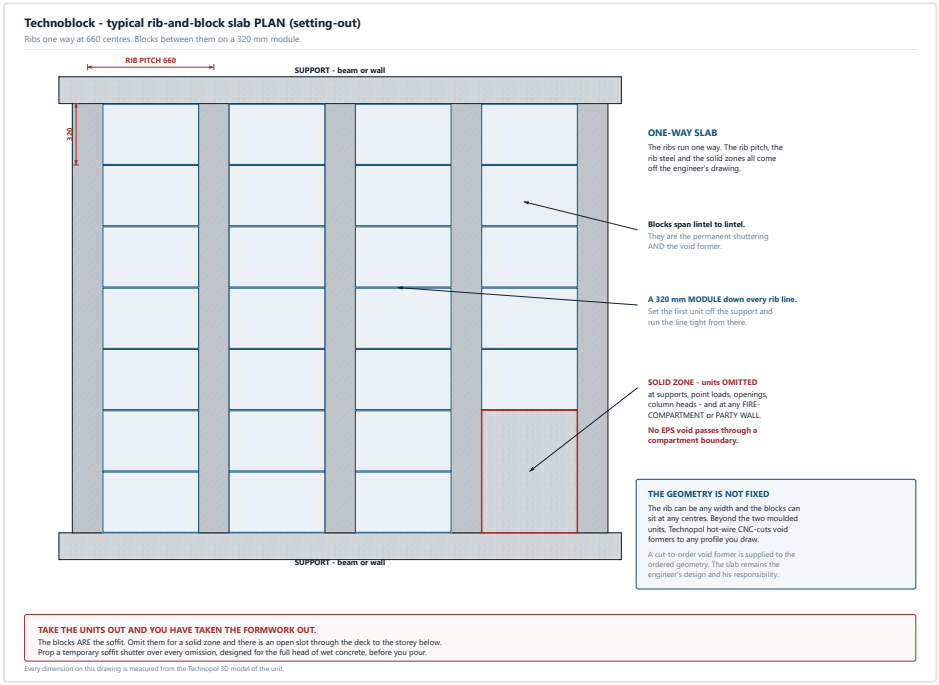
Rib-to-rib planks / decking	**The only permitted access across a laid deck, and the only permitted support for materials and pump hoses. The blocks take no construction load: an EPS block spanning between ribs will punch through under a point load.**
Propping	**Per the engineer's temporary-works method statement. All props and back-props land on the ribs or on the permanent works, never on a block. Propping, back-propping and casting rate come from the method statement — there is no default.**
End-cap plugs (#190)	**Close the three cores at every slab edge, opening and cut block so concrete cannot run into them. Supplied 6 free per 5 blocks (price-list supply term, subject to change).**
Extenders (#190 only)	**1.2-1.23 m long, 60 / 80 / 90 / 175 / 260 mm thick. Stack on the #190 to deepen the void without casting extra concrete. Set out and quantify by the metre run of rib line to be deepened, off the drawing.**

Rib support	**Rectangular pre-stressed concrete lintel (160 x 60 mm on the typical detail). Section, prestress and bearing to the engineer's specification. Technopol does not supply or specify the lintel.**
Rib reinforcement (typical detail)	**2 x Y12 bars per rib. A typical CAD value — the engineer's drawing governs.**
Topping mesh (typical detail)	**REF 193 in the 65 mm topping, on chairs. A typical CAD value — the engineer's drawing governs.**
Block-to-block and block-to-lintel joints	**Butt tight. There is no adhesive, tape or sealant in this system. Close the joints by seating the blocks properly, not by filling them.**
Cutting	**Fine-tooth saw or hot-wire cutter. Do not snap or hack blocks — a broken seating rebate will not sit on the lintel.**
Soffit lining	**Plaster or skim onto the moulded grooves for a flush ceiling. Where a fire rating or a limited-combustibility soffit is required, the lining is a rated ceiling system specified by the project fire engineer; plaster alone carries no fire-resistance rating.**
Prohibited chemicals	**No solvent-based form-release oil, curing compound or primer; no hot-applied bitumen; no torch-on membrane in contact with the EPS. Water-based, EPS-compatible products only.**



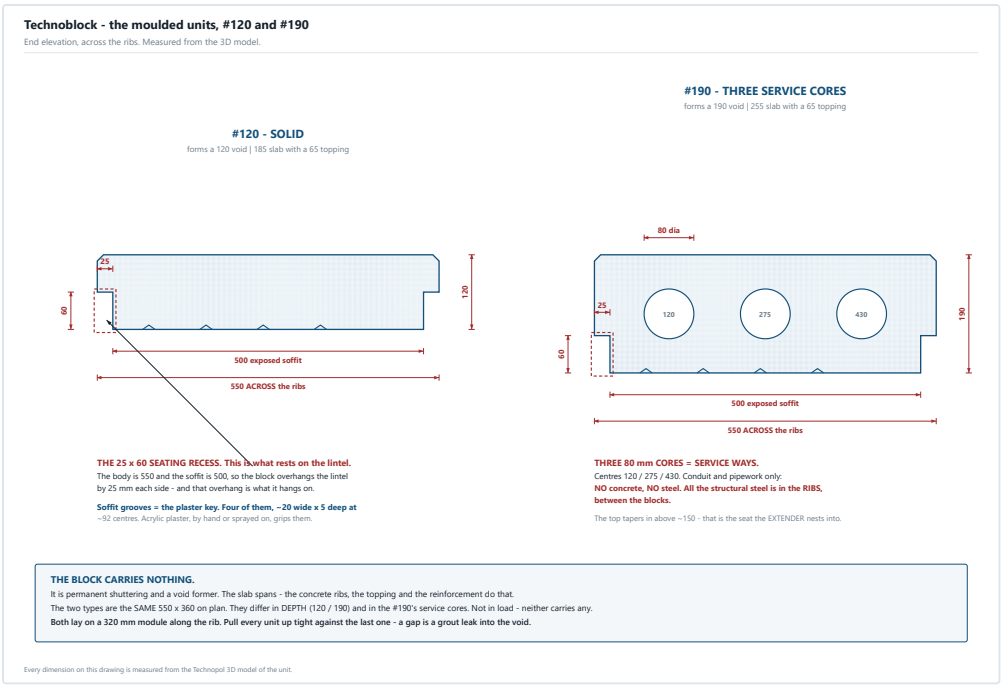
Typical rib-and-block slab SECTION

Across the ribs, on a RECTANGULAR PRESTRESSED LINTEL, 160 x 60. The unit is 550 wide at the body and 500 at the soffit, leaving a 25 x 60 SEATING RECESS each side - that recess is what seats on the lintel and holds the unit up. Rib pitch = 500 + the lintel width = 660. The in-situ rib stem is the lintel width less the two recesses = 110, and THAT is the b_v for the shear check, not the 160. Rib steel 2, 3 or 4 x Y12 in a cage with links and cover, to the engineer's design. 65 topping, mesh on chairs. And nothing below the deck but the PROPPING.



Typical rib-and-block slab PLAN - setting-out

Ribs one way at 660 centres, units between them on a 320 mm module. Solid zones at supports, point loads, openings and any fire-compartment boundary. Omit the units for a solid zone and you have removed the FORMWORK - prop a temporary soffit shutter, designed for the full head of wet concrete, before you pour. The geometry is not fixed: beyond the two moulded units, void formers are hot-wire CNC-cut to the profile the engineer draws.



The moulded units, #120 and #190 - dimensioned

Both units are 550 across the ribs and 360 overall along it, laid on a 320 module. Both carry the 25 x 60 seating recess and the four soffit grooves that key the acrylic plaster. They differ in DEPTH, not in load - neither carries any. The #190's three 80 mm cores are SERVICE WAYS for conduit and pipework: no concrete and no steel goes in them.

WHAT ACTUALLY GOES WRONG ON SITE

- Walking or working directly on the laid blocks. An EPS block spanning between ribs punches through under a point load — no capacity for construction traffic, no edge bearing. Plank rib-to-rib and stay on the planks.
- Landing back-props on the blocks. Props go on the ribs or on the permanent works. A prop head on a block drives straight through it.
- Stacking mesh, rebar bundles or bricks on the deck. Land them on the ribs or on planked-out areas.
- Assuming the #120 and #190 are different sizes on plan. They are not. Both units are 550 mm across the ribs and 360 mm along the rib, laid on a 320 mm module, and both carry the same 25 x 60 mm seating recess. They differ in DEPTH (120 vs 190 mm) and in the #190's three service cores - not in load, because neither carries any.
- Taking delivery on a bundle count. Count the blocks. A short delivery discovered on the deck is a lost day.
- Quantifying extenders by how many blocks one is supposed to cover. An extender is 1.2-1.23 m long — a little under four block widths — so take the quantity off the drawing by metre run of rib line.
- Leaving the #190 cores open at slab edges and openings. Concrete runs straight into them: wasted concrete, unplanned dead load, and a topping that comes up thin because the mix went into the block instead of onto it. The end caps are free — use every one.
- Driving the vibrating poker into the EPS instead of into the rib. It tears the block, the concrete slumps into the void, and the topping thins over that block with nothing visible from above. Vibrate the ribs only.
- Laying the topping mesh flat on the blocks instead of on chairs. Zero top cover, and the mesh does nothing. This is the single most common defect on a rib-and-block deck.
- Skipping the pre-pour walk-through. A punctured block is a concrete leak into the void, and it cannot be seen or fixed once the pour has passed over it.
- Assuming the deck needs no propping because it feels solid underfoot. The block contributes nothing structurally. Propping is the engineer's call and there is no default to fall back on.

- Using the #120 where the drawing calls for the #190 because it happened to be on site. It is not that the #190 'carries more' - neither block carries anything. The #120 leaves the slab 70 mm shallower than the engineer designed.
- Solvent-based release oil, solvent primer, solvent curing compound or hot bitumen touching the blocks. Polystyrene dissolves in solvents and melts under torch heat, and once the topping is cast you can neither see nor fix the damage.
- Hot works on a deck of exposed EPS. Grinding sparks, welding, torch-on membranes and cutting discs are the whole risk window on this product — from the moment blocks are laid until the topping covers them.
- Leaving the soffit unlined in the finished building, or treating a plaster coat as fire protection. The soffit is a combustible ceiling surface until it is covered, and plaster carries no fire-resistance rating. Where the floor needs a rating, the ceiling is the fire engineer's specified system.
- Stacking blocks on site unweighted and unstrapped. They are light — that is the whole point of the product — and they will blow off the deck.
- Cutting a service penetration through the finished slab afterwards and leaving a raw hole opening into the EPS void. Reinstate it with a fire-stopping detail designed for a combustible-core void.
- Quoting a Technoblock span, R-value, U-value, acoustic rating, block mass or fire-resistance rating to a client or a building-control officer. Technoblock carries none of those ratings.

How to read this document. Where a figure is load-bearing in your design, confirm it for the material actually supplied — on any load-bearing application, by testing the product delivered to your site. That is the right way to buy from anybody, including us.