



INSTALLATION GUIDE

LiteCore Bricks (LiteCore Building System)

Agreement-certified, factory-cast 1200 x 340 mm walling blocks of EPS-beaded foamed cement - 150 mm external (two 45 mm lightweight-concrete skins around a 60 mm CavityLite EPS core) or 100 mm internal solid - laid as non-load-bearing infill inside an engineer-designed light-steel or reinforced-concrete frame and finished with mesh-reinforced render.

DOCUMENT	ISSUED	PRODUCT	STATUS
TP-IG-LITECORE-BRICK	2026-07-27	litecore-bricks	Issued for use

BEFORE YOU START

Before a single block is laid, the structural frame must be up and signed off: a light steel frame to SANS 517, or a reinforced-concrete frame (reinforcement to SANS 920, concrete to SANS 10100-1 and -2), with the cast in-situ reinforced ring beams and columns that carry the roof. The frame carries the building; LiteCore fills in between. Foundations and surface beds are conventional and are the responsibility of a competent person. All surface beds and edge beams are laid on a damp-proof membrane complying with SANS 952, with a 75 mm concrete surface bed over, and the floor level sits about 200 mm above ground level. The slab must be level, clean, dry and set out, with the starter-bracket positions marked. If the frame is not finished, or the DPM is not down, or a panel between structural elements measures more than 3500 mm and no competent person has designed it - stop. Do not start laying.

TOOLS

- String line, long spirit level, plumb bob or laser level
- Rubber mallet
- Notched trowel for the LiteCore Bond thin-bed adhesive
- Bucket and mixing paddle on a slow-speed drill, for LiteCore Bond and LiteCore Plast
- Handsaw or block saw - LiteCore cuts easily; most cuts need no masonry saw
- Hammer drill for the M8 x 50 mm rawl bolts, and a spanner or socket to tighten them
- Wall chaser or angle grinder with dust extraction, for service chases
- Plastering trowels, hawk, straight-edge, corner beads
- Scissors or a sharp knife for the woven fibreglass mesh (5 mm apertures) and the strip mesh
- Brush for the bituminous paint at the bracket bedding
- Scaffold or trestles - blocks are 340 mm high, so courses rise fast and working height comes quickly

SEQUENCE

1 1. Set out on the slab and fix the starter brackets

Set out the wall lines on the surface bed as you would for conventional blockwork. Brush bituminous paint at each bracket position, then fix the starter brackets: 1 mm steel channel brackets, 100 mm long x 50 x 151 mm, at 1200 mm centres, one M8 x 50 mm rawl bolt per bracket into the edge beam. The channel cradles the base of the block. The same bracket detail anchors the wall to the roof structure and to the structural mullions - mark and fix those positions before you build past them.

CHECK BEFORE MOVING ON

- Every panel between structural elements is 3500 mm or less. Anything larger stops until a competent person has designed it.
- The DPM to SANS 952 is in place under the surface bed and edge beams and is not punctured.
- Bracket centres measure 1200 mm, and every bracket has its M8 x 50 mm rawl bolt. Not one bolt every second bracket.
- Bracket positions coincide with the block coursing, not with a joint you are about to open up.

2. Set the first course - this is the course that decides the wall

Bed the first course dead level and dead straight. Blocks are 340 mm high, so a 1 mm error in the first course is a visible lean by the third. Use a string line and check every block. Set the bond out first: stretcher bond, half-block lap, so vertical joints stagger between courses. Cut the first block of alternate courses to establish the lap - it saws easily.

CHECK BEFORE MOVING ON

- First course is level along its full length, not just at the ends.
- First course is plumb to the string line and square to the frame.
- Stretcher bond is set out so no vertical joint stacks above another anywhere in the wall.
- Blocks are seated into the starter brackets.

3. Lay the blocks in thin-bed LiteCore Bond

Mix LiteCore Bond to the supplier's ratio. It is an adhesive, not a bricklaying mortar, and it goes on thin - comb it onto the bed joint with a notched trowel, about 3 kg/m². The bed joints are tongue-and-groove: engage the interlock, tap the block home with a rubber mallet, and check level and plumb on every course. The ends of the blocks are plain, so butter every vertical joint with LiteCore Bond - the same way on every course. If a block will not seat into the groove, it is dirty or the bed is over-buttered: clean it and re-lay it. Do not force it.

CHECK BEFORE MOVING ON

- Bed joints are thin and full - no gaps, no dry joints, no daylight through the wall.
- The tongue-and-groove bed joint is properly engaged on every block.
- Every vertical joint is buttered.
- Level and plumb checked every course, not every third course.
- No block is being packed or shimmed to make level. If you are shimming, the course below is wrong - take it down.
- No block anywhere is carrying a lintel, a bearer, a wall plate or any other load.

4. Build the frame junctions - 20 mm proud, then bridge

Where the wall meets a steel or RC column, mullion or ring beam, lay the external blocks 20 mm proud of the structural line and rebate them back to the outer face of the structural element. That builds the plaster transition. Then bridge the interface with a LiteCel or Rockwool strip running at least 50 mm past it on each side. Do this as the wall rises; it cannot be added afterwards. Where the project engineer has drawn a thermal treatment to the ring beam, build it in now, exactly as drawn.

CHECK BEFORE MOVING ON

- Blocks are 20 mm proud of the structural line and rebated back at every column and mullion.
- A LiteCel or Rockwool bridging strip is in place at every steel and RC interface, running at least 50 mm past it.
- No bare steel or RC face anywhere is about to receive render directly.
- Any engineer-designed ring-beam or mullion treatment is built exactly as drawn.

5. Openings and the fire cavity breaks

Build window and door frames in as the work proceeds - conventional or Agreement-approved frames. Around every fixed opening in an external (cored) block, remove the EPS core or seal the cavity with mortar or a similar non-combustible material, to a depth equal to the thickness of the outer skin. In multi-storey work: horizontal cavity breaks at every floor level, and vertical cavity breaks at least every 5 metres or at each division-separating element, whichever comes first. Heated EPS softens and withdraws, leaving a flue inside the wall. None of this is discretionary.

CHECK BEFORE MOVING ON

- Every fixed opening has the EPS core removed or the cavity sealed with non-combustible material, to the outer-skin thickness.
- Horizontal cavity break present at every floor level (multi-storey).
- Vertical cavity breaks at no more than 5 m centres, and at every division-separating element.
- Where the wall separates an H3 division, a door assembly of similar rating is specified.
- Photograph every cavity break before it is closed up. Nobody can inspect it afterwards.

6. Services and chasing

Chase conventionally, but respect the core. Chases are cut approximately 50 mm wide and staggered at least 300 mm apart, and the chase stops at the cementitious skin - cut to the face of the lightweight concrete in front of the EPS insert, not through it. Refill with Styronit STY 160 or an approved equivalent once the conduit and boxes are in. Back-to-back service installations are not permitted in any dividing wall: a box cut from each side in the same position destroys the division. Keep every solvent-based product, bitumen primer and PVC-sheathed cable off the EPS - solvents and PVC plasticisers dissolve it. Use water-based, EPS-compatible products only.

CHECK BEFORE MOVING ON

- Chases are about 50 mm wide and staggered at least 300 mm apart.
- No chase has cut through the EPS core - the cut stops at the cementitious skin.
- No back-to-back boxes or chases in any dividing wall. None.
- Chases refilled with Styronit STY 160 or approved equal.
- No solvent adhesive, bitumen primer or bare PVC cable is touching EPS anywhere.
- No conduit, pipe or fixing is transferring load into the block.

7. The 14-day drying hold

Do not plaster a large wall within 14 days of building it. The blocks give up moisture as they cure and the wall shrinks; render a green wall and that shrinkage goes straight into the render skin as a crack pattern. Use the time for services, chasing and frame fixing. This is the most commonly ignored instruction on a LiteCore site and the most common source of callbacks.

CHECK BEFORE MOVING ON

- At least 14 days have passed since the wall was built, before any render goes on.
- Services, chases and frame fixings are complete - you do not want to cut into a rendered wall.
- The wall is dry and clean, with no loose adhesive, dust or laitance on the face.

8. Mesh and render

Render both sides with LiteCore Plast on woven fibreglass mesh with 5 mm apertures: minimum 12 mm external, minimum 5 mm internal. Where the specification calls for a thicker internal render, confirm the thickness with Technopol first. Lap the mesh at every joint. At every steel and RC junction, run strip mesh over the LiteCel or Rockwool bridging strip and lap it 100 mm onto each wall side - that is the crack detail, and it is not optional. Add an extra layer of mesh anywhere thermal-stress cracking is likely: large uninterrupted sun-facing panels, and above and below openings. Use lighter colours on sun-exposed facades; a dark render on a low-mass, EPS-cored wall runs hot and moves.

CHECK BEFORE MOVING ON

- Mesh is fully embedded in the render, not sitting on the surface and not floating in a void.
- External render is at least 12 mm; internal at least 5 mm.
- Strip mesh over every bridging strip, lapped 100 mm onto each wall side.
- Extra mesh at openings and at large sun-exposed panels.
- No bare steel or RC has been plastered over directly.

9. Wet rooms, fittings and the plaque

Wet rooms follow the certified build-up: two coats of Elestocryl primer and two coats of an Agreement-approved fungicidal paint or a coating highly impermeable to water, including behind baths, shower trays and wash-hand basins. Shower trays are preformed or built in situ with a watertight membrane, bonded to the wall, with a minimum 150 mm upstand above floor level. Seal wall junctions subject to heavy water, and the joints between tiling and the bath lip or shower-tray edge, with a silicone sealant complying with SANS 1305. For fittings: light- and medium-weight items go on spring fischer plugs with 6 mm coach screws. Heavy fittings are floor-mounted - basins, cisterns, geysers, boilers, brackets and equipment do not hang off this wall. Where a heavy fixing is unavoidable, it must land on a steel noggin or backing plate in the frame, designed in at drawing stage, not improvised on site. Finally, fix the Agreement plaque - at least 100 x 75 mm, carrying the Agreement logo and certificate number 2020/609 - to an external wall of the building.

CHECK BEFORE MOVING ON

- Wet-room primer and paint system complete; shower-tray upstand at least 150 mm; SANS 1305 silicone at all junctions.
- No heavy fitting is hanging off a LiteCore wall on plugs.
- Every heavy fixing lands on a frame member or a designed backing plate.
- Agreement plaque (at least 100 x 75 mm, certificate 2020/609) fixed to an external wall.
- Nothing has been changed from the certified system. Any change needs prior written Agreement approval.

FIXINGS AND FASTENERS

Base / roof / mullion anchorage bracket	1 mm steel channel bracket, 100 mm long x 50 x 151 mm, at 1200 mm centres
Bracket anchor	One M8 x 50 mm rawl bolt per bracket, into the edge beam / slab
Bracket bedding	Bituminous paint, under a cement-and-sand screed, on the 75 mm concrete surface bed
Bracket locations	Slab, roof structure and structural mullions
Bed mortar	LiteCore Bond thin-bed adhesive mortar, 3 kg/m²

Bond pattern	Stretcher bond, half-block lap. Tongue-and-groove engaged on the bed joints; ends plain - butter every vertical joint with LiteCore Bond
Blocks per m2	2.45 (1200 x 340 face = 0.408 m2) - add cutting and waste
Light / medium fittings	Spring fischer plugs with 6 mm coach screws
Heavy fittings	Floor-mounted, or fixed back to a designed steel noggin or backing plate in the frame. Never plugged into the block
Render mesh	Woven fibreglass mesh, 5 mm apertures
Render	LiteCore Plast - minimum 12 mm external, minimum 5 mm internal
Strip mesh at frame junctions	Lapped 100 mm onto each wall side, over a LiteCel or Rockwool bridging strip running at least 50 mm past the interface
Service chases	About 50 mm wide, staggered at least 300 mm apart, stopping at the cementitious skin; refill with Styronit STY 160 or approved equal
DPM	To SANS 952, under all surface beds and edge beams
Wet-room sealant	Silicone to SANS 1305

WHAT ACTUALLY GOES WRONG ON SITE

- Letting something bear on the wall - a lintel end, a temporary prop, a scaffold standard, a wall plate, a beam bearing. LiteCore is below 5 MPa and is not suitable for load-bearing application. The frame carries everything. If you find load on a LiteCore wall, take it off before it is buried in render.
- Plastering before 14 days. The wall is still shrinking as it dries. Render it green and that shrinkage cracks the render. Most-ignored instruction on the job; most common callback.
- Plastering straight over a steel or RC column without the LiteCel or Rockwool bridging strip and the 100 mm-lapped strip mesh. You will get a crack down that line. Every time.
- Forgetting to lay the external blocks 20 mm proud of the structural line and then trying to make the plaster transition work afterwards. The rebate has to be built in as the wall rises.
- Leaving the vertical joints dry. The interlock is on the bed faces only; the ends are plain and must be buttered with LiteCore Bond, on every course.
- Chasing straight through the EPS core. The chase stops at the cementitious skin in front of the insert. Cutting through the core destroys the insulation and the cavity-break logic, and nobody can see it once the wall is rendered.
- Back-to-back boxes or chases in a dividing wall. Prohibited outright. A socket box cut from each side in the same place is a hole straight through the division.
- Skipping the horizontal cavity break at a floor level, or letting vertical breaks drift past 5 m, in multi-storey work. Heated EPS withdraws and leaves a flue inside the wall. Photograph every break before it is closed up.
- Panels over 3500 mm built without a competent person's design. It is a hard certificate limit with no wind pressure attached - it cannot be stretched 'a bit'.
- Hanging a basin, cistern, geyser, boiler or TV bracket off the wall on plugs. Light and medium fittings only, on spring fischer plugs with 6 mm coach screws. Heavy fittings are floor-mounted or fixed back to a designed noggin or backing plate in the frame.
- Shimming or packing blocks to make a course level. If you are shimming, the course below is wrong. Take it down and re-lay it - this is a thin-bed system and it will not tolerate a thick joint.

- Forcing a block that will not seat into the groove. It is dirty or over-buttered. Clean it and re-lay it. A forced block breaks the tongue and opens a joint you cannot see once it is rendered.
- Using a solvent-based adhesive, a bitumen primer or a solvent sealant near the core, or running PVC-sheathed cable hard against the EPS. Solvents and PVC plasticisers dissolve EPS silently, inside the wall.
- Working the wall or storing blocks near a flue, a heater, hot works or a bitumen boiler. EPS softens above roughly 70-80 C.
- Leaving the wall unrendered and exposed over a break. It is not a weatherskin. Render it.
- Quoting the 120-minute figure as furnace-tested minutes. It is the SANS 10400-T deemed-to-satisfy classification of the wall build-up; the furnace-tested LiteCore result is FR60 on the NuClad LiteCore LSF wall, a different assembly.
- Building LiteCore into a hospital, clinic, health-care or detention building. Those occupancies are not certified. Check the occupancy class against the granted list (A3, A4, B2, B3, D2, D3, F1, F2, F3, G1, H2, H3, H4) before you start.
- Forgetting the Agreement plaque. At least 100 x 75 mm, certificate number 2020/609, on an external wall of every LiteCore building.

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.

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