TECHNOPOL SA
ENERGY SAVING MATERIALS

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INSTALLATION GUIDE

PolyCool & SuperCool — Insulated Ceiling Boards

A fire-retarded EPS board with a washable facing bonded to one side, fixed below-truss, over-purlin or across-beam so that one element is both the roof insulation and the finished ceiling.

DOCUMENT	ISSUED	PRODUCT	STATUS
TP-IG-POLYCOOL-SUPER	2026-07-15	polycool-supercool	Issued for use

BEFORE YOU START

The supporting structure must be complete, straight, and set out to the support centres issued by Technopol for the board, thickness, core density and build-up ordered. That spacing is a supply condition, not a site decision, and it is not taken from a brochure table. Trusses, purlins, brandering and beams must be true to line and level: a bowed purlin or a twisted top-hat telegraphs straight into the finished ceiling and no amount of jointing hides it. Purlins must be dry and free of loose scale, and any protective coating on them must be cured. In an over-purlin build-up the roof sheeting must not yet be fixed, and the sheeting supplier's fastener schedule must be to hand — you will be adding the full board thickness to the screw length. In a below-truss or across-beam retrofit the existing roof must be watertight before the boards go up, and every hot service in the roof space (flue, chimney, unlagged hot pipe, downlight transformer) must be identified and given clearance before the first board is placed. Confirm the ceiling is not being asked to carry anything: no foot traffic, no storage, no plant, no services hung from the board.

TOOLS

- Sharp long-blade insulation knife, with spare blades — a blunt blade tears the facing
- Hacksaw or fine-tooth handsaw for the thicker boards
- Long straightedge and a clean, flat cutting surface
- Tape, chalk line, and a string line or laser level
- Cordless screwgun with a depth-setting nose cone or an adjustable clutch — not a bare impact driver
- Tin snips, and a rivet gun or screwgun for the mini top-hats and H-strips
- Sealant gun, with an EPS-compatible sealant only
- Plaster key or crack filler for repairs
- Clean wet cloths for the facing
- Trestles, hop-ups or a scaffold platform — the boards are not a working surface and must never be stood on
- PPE: gloves, eye protection, and fall protection where working at height

SEQUENCE

1. Confirm the specification before the boards are ordered

These boards are made to order and cannot be changed on site. Confirm: the product (PolyCool vinyl-faced, or SuperCool uPVC-faced for wash-down duty); thickness and core density; width and cut length; whether reinforced boards are needed for an across-beam self-supporting run; and whether the SuperCool-S airtight arrangement is required. SuperCool's tongue-and-groove edge is standard and does not have to be called up as an extra. Get the support centres from Technopol for that exact board, build-up and roof, in writing, with the order.

> **CHECK BEFORE MOVING ON**
>
> - The ceiling is not one that must carry a declared reaction-to-fire class for the finished lining
> - SuperCool is not going into a commercial building with a sprinkler installation
> - Support centres received from Technopol for the board and build-up ordered
> - Reinforced boards and the SuperCool-S arrangement are on the order where required, not assumed

2. Receive, inspect and store

Offload flat. Check thickness, width and length against the order — the published tolerance is plus or minus 5 mm on PolyCool width, so anything visibly out is a query, not a site adjustment. Check the facing for tears, scuffs and delamination at the edges; a lifted facing at a board edge only gets worse. Store the boards flat, off the ground, under cover and out of direct sunlight, and keep them away from anything solvent-based — bitumen, tar, thinners, solvent adhesives and solvent-carried disinfectants dissolve EPS on contact. Do not stack boards on edge, and do not stack anything on top of them.

> **CHECK BEFORE MOVING ON**
>
> - Boards flat, off the ground, covered, out of direct sunlight
> - No solvents, bitumen or fuel stored near the stack
> - Thickness, width and length match the order
> - Facing intact, no edge delamination

3. Set out the supports

Snap a line and set out the mini top-hats or H-strips to the confirmed centres. Mini top-hats are pre-galvanized or coated pre-galvanized steel; H-strips are aluminium or PVC. Every board joint must land on a support — a PolyCool butt joint has no strength of its own and must be centred on a top-hat or an H-strip. Plan the board layout before fixing anything, so that the joints fall on supports and the last board in a run is not a sliver. Stagger the top-hat splices; do not line them all up on one truss.

> **CHECK BEFORE MOVING ON**
>
> - Every planned board joint lands on a support
> - Supports straight and true — sight along each run
> - Top-hat and H-strip splices staggered
> - Last board in each run is a workable width

4. Fix the supports

Fix the mini top-hats or H-strips to the trusses, purlins or brandering. They must be fixed to resist uplift, not only to hold the board's weight — this is where uplift restraint is built in, and it is the thing most often skipped. Check each run is straight after fixing; a support pulled out of line by a fixing will show in the ceiling.

> **CHECK BEFORE MOVING ON**
>
> - Every support fixed at every crossing member
> - Runs still straight after fixing
> - Fixings tight, none stripped

5. Cut the boards and plan the lift

Cut on a clean flat surface with the facing UP, using a sharp knife against a straightedge, or a hacksaw for the thicker boards. A blunt blade tears the facing and the tear shows on the finished ceiling. Cut to a tight fit — a butt joint or a tongue-and-groove joint must close. Do not cut on the ground, where grit embosses the facing, and do not use a power saw that melts the core. Size the lifting crew from the board's mass: a 1200 x 7500 mm SuperCool board at 100 mm is about 23 kg and 7.5 m long, and it is the length that makes it awkward at height.

> **CHECK BEFORE MOVING ON**
> - Cut edges square and clean, no crumbling
> - Facing not torn at the cut line
> - Board fits its opening tight — no gap to be filled later
> - Crew and platform sized for the actual board length and mass

6. Place the first board and set the datum

Start from a straight reference edge — usually a wall or an eaves line, whichever is straighter — and check the first board for square before fixing it. Every cumulative error in the run comes from board one. Place the boards with the finished face to the room: on PolyCool the vinyl foil, on SuperCool the uPVC.

> **CHECK BEFORE MOVING ON**
> - First board square to the run
> - Correct face to the room
> - Board fully bearing on both supports, not tipped on one edge

7. Close the joints

PolyCool: butt the boards tight, the joint centred on a top-hat or an H-strip. SuperCool: engage the polystyrene tongue fully between adjacent boards and drive the joint home — a half-engaged tongue-and-groove joint is worse than a butt joint, because it forms a channel that carries wash-down water straight into the core. Check every joint is closed before moving on; you cannot come back to it once the sheeting is on.

> **CHECK BEFORE MOVING ON**
> - Every joint closed, no daylight
> - SuperCool tongue fully seated along the whole joint length
> - Every joint lands on its support

8. Restrain the boards up as well as down

Fit a hold-down cup at every joint. The datasheet instruction is explicit: boards must be fixed to prevent downward AND upward movement. Gravity is the easy half. The half that gets missed is uplift — wind across the roof, or a negative-pressure poultry fan starting up, will lift an unrestrained ceiling board off its supports. In an across-beam retrofit where the sheeting cannot be removed, wedge filler strips in to hold the boards down onto their supports. Do not leave a run to be finished later: an unrestrained ceiling overnight in a wind is a ceiling on the floor.

> **CHECK BEFORE MOVING ON**
> - A hold-down cup at EVERY joint, not every second one
> - Each board restrained against uplift as well as against sag
> - Filler strips fitted and wedged in across-beam retrofits
> - No run left unrestrained at the end of the shift

9. Over-purlin only: lay and fix the roof sheeting through the board

Lay the sheeting over the boards and screw through the sheet, through the full thickness of the board, into the purlin. Two things decide whether this works. First, screw length: take the sheeting supplier's fastener schedule and ADD the full board thickness, so that the thread still reaches full engagement in the purlin. The screws that came with the sheeting are sized for a bare roof and are short by the thickness of the board. Second, torque: the screw is clamping through a compressible EPS core. Over-tightening dimples the sheeting, crushes the core under the washer, and the clamp then goes slack and the joint opens. Set the screwgun's depth stop or clutch on an offcut, check the first ten fixings, and re-check after every battery change.

> **CHECK BEFORE MOVING ON**
> - Screw length = sheet + full board thickness + the purlin engagement the sheeting supplier requires
> - Screwgun depth stop or clutch set on an offcut before the first real fixing
> - First ten fixings inspected — no dimpling of the sheet, no crushed core under the washer
> - No fixing missed the purlin — a screw through the board into fresh air holds nothing
> - Ridge and eaves closed

10. Services, penetrations and heat sources

Keep the EPS clear of every heat source. Recessed downlights, downlight transformers, flue pipes, chimneys and unlagged hot-water pipes must not sit against the board — EPS softens and creeps at sustained temperature above roughly 70-80 degrees C, and a downlight cut straight into an EPS ceiling is a fire waiting to happen. Use fittings rated for insulation contact, or hold the insulation off with a proper clearance box. Cut penetrations neatly with a sharp knife rather than punching them through, and seal them with an EPS-compatible sealant only. Never hang services, cable trays or equipment from the board itself — it is a non-structural ceiling element.

> **CHECK BEFORE MOVING ON**
> - No downlight, transformer, flue or hot pipe in contact with EPS
> - Every penetration cut clean and sealed with an EPS-compatible sealant
> - Nothing hung from the board
> - No solvent-based sealant, adhesive, bitumen or tar anywhere near the EPS

11. SuperCool-S airtight ceilings for negative-pressure poultry houses

Pinch the board sides between the mini top-hats, so that the top-hat forms both the support beam and the seal. Seal the board ends against insect ingress. This is the arrangement that gives a negative-pressure ventilation system the airtight ceiling it needs. The airtightness is delivered by the detail, so the detail has to be right along its whole length — one open metre of side joint undoes the run. Where the ventilation design depends on a leakage rate, measure that rate on the finished house.

> **CHECK BEFORE MOVING ON**
>
> - Board sides fully pinched between top-hats along their whole length
> - Board ends sealed
> - Ceiling perimeter, penetrations and fan surrounds sealed before the fans are commissioned
> - Where the ventilation design depends on a leakage rate, an air-tightness test is scheduled

12. Clean, repair and hand over

Wipe the facing clean with a wet cloth. Repair surface indentations and minor damage with a plaster key or crack filler. Do not use a solvent-based cleaner on the facing, and do not high-pressure wash a new SuperCool ceiling until every joint is confirmed closed. Record on the handover: product, thickness, core density, batch, the confirmed support centres, and the limits — non-structural, not walkable, not rated as a fire division.

> **CHECK BEFORE MOVING ON**
>
> - Facing clean, no solvent used
> - All damage repaired, no exposed EPS
> - Handover record states product, thickness, core density, batch and the confirmed support centres
> - Client told in writing: non-structural, not walkable, not rated as a fire division

FIXINGS AND FASTENERS

Support rails	**Mini top-hats — pre-galvanized steel or coated pre-galvanized steel.**
Joint support	**H-strips — aluminium or PVC. Every PolyCool butt joint must be centred on a top-hat or an H-strip.**
Hold-down	**Hold-down cups at every joint. Boards must be restrained against downward AND upward movement — uplift restraint is not optional.**
Across-beam retrofit	**Filler strips, wedged to hold the boards down onto their supports where the existing roof sheeting cannot be removed.**
SuperCool side joint	**Tongue and groove (the standard edge): a polystyrene tongue inserted between adjacent boards and driven fully home.**
SuperCool-S airtight	**Board sides pinched between mini top-hats, forming the support beam and the seal in one; board ends sealed against insects.**
Over-purlin sheeting screws	**Fixed through the sheet, through the FULL board thickness, into the purlin. Length = the sheeting supplier's schedule PLUS the board thickness. Take the schedule from the sheeting supplier.**
Screwgun setting	**Depth-setting nose cone or clutch, set on an offcut. The screw clamps through a compressible core; over-torque dimples the sheet, crushes the EPS and loses the clamp.**

Sealants and adhesives	**EPS-compatible only. No bitumen, tar paint, solvent-based sealant or adhesive, and no expanding foam with an aromatic carrier.**
Repairs	**Plaster key or crack filler. Wipe the facing with a wet cloth — no solvent cleaners.**

WHAT ACTUALLY GOES WRONG ON SITE

- Standing on the boards, or using them as a platform to reach the roof. They are a non-structural ceiling element and will not warn you before they let you through. Work off trestles or a platform.
- Fitting hold-down cups at some joints and not others. The board is then restrained downwards only, and the first strong wind across the roof — or the first negative-pressure fan to start — lifts it off its supports.
- Over-torquing the sheeting screws in the over-purlin build-up. The screw clamps through a compressible EPS core; over-tightening dimples the sheet, crushes the core under the washer, and the clamp goes slack. The joint then opens and the roof leaks at the fixing.
- Using the screws that came with the sheeting for a bare roof. They are short by the full thickness of the board and will not reach full engagement in the purlin.
- Taking support centres off an old brochure or a legacy datasheet. Use the centres Technopol issued for the board and build-up actually ordered.
- Leaving a SuperCool tongue-and-groove joint half-engaged. It becomes a channel that carries wash-down water straight into the core.
- High-pressure jetting directly into a joint or a cut edge. The facing is washable; the core is not. Keep the jet off joints and off any exposed edge.
- Cutting a recessed downlight straight into the EPS, or letting a flue, chimney or unlagged hot pipe touch the board. EPS softens and creeps at sustained temperature above roughly 70-80 degrees C.
- Using bitumen, tar paint, a solvent-based sealant or adhesive, or a disinfectant carried in an organic solvent anywhere near the board. It dissolves EPS on contact — check the carrier solvent of every product, every time.
- Leaving the boards in direct sunlight on site, stacking them on edge, or stacking material on top of them.
- Ordering PolyCool for a wash-down interior. The vinyl foil is a wipe-clean face; the high-pressure-washable face is SuperCool's 1 mm uPVC.
- Assuming a reinforced board or the SuperCool-S airtight arrangement comes as standard. Both are ordered extras and must be on the order. SuperCool's tongue-and-groove edge, by contrast, is standard.
- Sizing the lifting crew by eye. A full-length 7.5 m SuperCool board at 100 mm is about 23 kg, and its length is what makes it unmanageable at height.
- Cutting with a blunt blade, which tears the facing, or on a gritty surface, which embosses it. Both show permanently on the finished ceiling.
- Telling the client the ceiling is 'fire rated'. It is not rated as a fire division. The board carries a reaction-to-fire class on its fire-retarded core, which is a different property and cannot be expressed in minutes.

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