

**PRODUCT BROCHURE**

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**TP-BR-POLYCOOL-SUPER****ISSUED****2026-07-14****PRODUCT****polycool-supercool****STATUS****Issued for use**

OVERVIEW

PolyCool and SuperCool are composite insulated-ceiling boards: a fire-retarded expanded-polystyrene core with a washable facing laminated to one side. PolyCool carries a reflective white vinyl foil on an 18 kg/m³ core, 35 to 100 mm thick and up to 6000 mm long, for houses, offices, warehouses, retail and industrial ceilings. SuperCool carries a 1 mm white uPVC facing with a tongue-and-groove edge on a 15 kg/m³ core, 50 to 100 mm thick and up to 7500 mm long, for agricultural interiors that are hosed down. Both boards insulate and finish in one pass, and both are non-structural: they are carried by their supports and they carry nothing themselves. Their fire credential is a reaction-to-fire class held on the fire-retarded core, not a fire-resistance rating in minutes.

Each board is a three-layer laminate: the facing, a polyurethane adhesive, and a fire-retarded EPS core. PolyCool's facing is a white vinyl foil that wipes clean with a wet cloth; boards are butt-jointed, with the joint centred on a mini top-hat or an H-strip. SuperCool's facing is a 1 mm white uPVC sheet bonded with approximately 200 g/m² of PU adhesive to an FRCel 15DV core; its tongue-and-groove edge is standard, a polystyrene tongue closing the side joint between adjacent boards, and it is the board to specify where the ceiling is regularly high-pressure washed. Boards are made to order. PolyCool: 35, 50, 75 or 100 mm thick, 600 or 1200 mm wide (width tolerance plus or minus 5 mm), any length to 6000 mm. SuperCool: 50, 60, 75 or 100 mm thick, 1200 mm wide, any length to 7500 mm. Cores of 20 or 30 kg/m³ are available on request, and reinforced boards are made for across-beam ceilings where the board has to be partly self-supporting. Both cut and trim on site with a sharp knife or a hacksaw. Size the handling crew from the areal mass, not by eye: a full 1200 x 7500 mm SuperCool board at 100 mm is about 23 kg, and it is the 7.5 m length rather than the weight that makes it awkward at height. Boards are carried on mini top-hats (pre-galvanized or coated pre-galvanized steel) or H-strips (aluminium or PVC), with hold-down cups at the joints, and must be restrained against upward movement as well as downward. In the over-purlin build-up the roof sheeting is laid above the board and screwed through it into the purlin; below-truss and across-beam build-ups suspend the board under an existing roof. The SuperCool-S variant pinches the board sides between mini top-hats to form the support beam and the seal in one, for airtight ceilings in negative-pressure-ventilated poultry houses.

KEY FACTS

PROPERTY	VALUE
Product build-up	Three layers: washable facing / PU adhesive / fire-retarded EPS core. PolyCool: white vinyl foil. SuperCool: 1 mm white uPVC, bonded with approximately 200 g/m² of PU adhesive. Faced one side as standard; both sides available.
EPS core density	PolyCool 18 kg/m³. SuperCool 15 kg/m³ (FRCel 15DV). Cores of 20 or 30 kg/m³ on request for special insulation or mechanical requirements.°
Thicknesses	PolyCool 35 / 50 / 75 / 100 mm. SuperCool 50 / 60 / 75 / 100 mm.°
Widths	PolyCool 600 or 1200 mm (tolerance plus or minus 5 mm). SuperCool 1200 mm.°
Maximum manufactured length	PolyCool up to 6000 mm. SuperCool up to 7500 mm. Confirm the deliverable length with the factory when ordering.°

PROPERTY	VALUE
Edge and joint	PolyCool: butt joint, centred on a mini top-hat or an H-strip. SuperCool: tongue and groove as standard, with a polystyrene tongue inserted between adjacent boards to close the side joint.
Thermal resistance (R-value, in application)	PolyCool (18 kg/m³ core): 1.27 at 35 mm / 1.69 at 50 mm / 2.40 at 75 mm / 3.00 m²K/W at 100 mm. SuperCool (15 kg/m³ core): 1.60 at 50 mm / 1.87 at 60 mm / 2.30 at 75 mm / 2.95 m²K/W at 100 mm. These are the R-values published for the board in a roof application, and they apply to the standard core density shown.
SANS 10400-XA	XA is assessed on the TOTAL roof/ceiling assembly: 3.7 m²K/W in every climatic zone, with the single relief of Zone 5H (humid sub-tropical coastal, Durban and East London) at 2.7 m²K/W provided the roof is ventilated. No board in either range reaches the total on its own, so the board is one layer in the stack. Run the actual build-up through the SANS 10400-XA checker.
Areal mass (dead load)	PolyCool: 0.35 + (0.018 x thickness in mm) kg/m², giving 0.98 at 35 mm / 1.25 at 50 / 1.70 at 75 / 2.15 at 100. SuperCool: 1.0 + (0.016 x thickness in mm) kg/m², giving 1.80 at 50 mm / 1.96 at 60 / 2.20 at 75 / 2.60 at 100. Use it for the ceiling dead load and to size the lifting crew.
Reaction to fire	Euroclass B-s1,d0 to SANS 53501-1, valid to 4 August 2028. Scope, which travels with the class: it was determined on the bare, unfaced fire-retarded EPS core, a 60 mm sheet at a measured density of plus or minus 18.37 kg/m³ (FRCel 20DV). It classifies the core. It does not classify the vinyl or uPVC facing, and it is not a fire-resistance rating.
Fire resistance	Not rated as a fire division. A fire division requires a fire-resistance rating in minutes (FR30 / FR60 / FR120), determined to SANS 10177-2. These boards carry a reaction-to-fire class, which is a different property and can never be expressed in minutes. Where SANS 10400-T calls for a rated ceiling or a fire division, specify a rated system.
Combustibility	All EPS is combustible. The FRCel core is fire-retardant treated, not non-combustible. Under sustained fire SuperCool's uPVC facing softens, drapes, ignites and sheds flaming and molten droplets.
Structural capacity	Non-structural. The board is a ceiling element carried entirely by its supports. Do not walk on it, store on it, or hang plant, cable trays or services from it.
Support centres	Set by Technopol for the board, thickness, core density and build-up on your order, and issued with it. Do not take support centres from a brochure table or a legacy datasheet.
Service temperature	80 degrees C long-term, 100 degrees C short-term for Technopol EPS. EPS softens and creeps at sustained temperature above roughly 70-80 degrees C, so keep the board clear of flues, chimneys, unlagged hot pipes, recessed downlights and downlight transformers.
Chemical compatibility	EPS-compatible products only. Bitumen, tar paint, solvent-based sealants and adhesives, and disinfectants carried in organic solvents dissolve EPS on contact. Check the carrier solvent of every product before it touches the board.
Quality certification (company)	ISO 9001:2015, EQCSA Reg. no. Q 2016024 (SANAS accreditation C22), valid to 2 June 2028. The certified scope includes 'Insulated Ceiling Solutions'. This certifies the factory's quality management system; it is not a product performance claim.
Agrement South Africa	No Agrement certificate covers PolyCool or SuperCool. Agrement SA certificate 2020/609 covers the LiteCore Building System, and only as a non-load-bearing wall.

° Catalogue or declared value — Technopol holds no test report for this figure. It is the value we publish for the grade, not a measurement of the delivered batch. Where a figure is load-bearing in your design, specify batch testing. Every test report and certificate we do hold, with its current status, is at technopol.co.za/verify.

WHERE IT IS USED

- Ceilings in houses, offices, warehouses, retail and light-commercial buildings — insulation and a finished, wipe-clean ceiling in one board
- Industrial ceilings, insulating and finishing in a single element
- SuperCool in poultry and piggery housing, including environmentally controlled broiler houses, where the ceiling is hosed down between cycles
- SuperCool-S airtight ceilings for negative-pressure poultry ventilation, the board sides pinched between mini top-hats to form the support beam and the seal in one
- Over-purlin insulated ceilings, the roof sheeting laid over the board and fixed through it into the purlins
- Below-truss ceilings on mini top-hats or H-strips with hold-down cups, new build or retrofit
- Across-beam ceilings under an existing roof, with reinforced boards ordered where the board must be partly self-supporting
- Retrofitting insulation to an existing roof without stripping the sheeting

WHERE NOT TO USE IT

- As a fire division or a fire-rated ceiling. A fire division requires a fire-resistance rating in minutes; this board carries a reaction-to-fire class, which is a different thing. Where SANS 10400-T calls for a rated element, specify a rated system.
- Ceilings where the code requires a declared reaction-to-fire class for the finished lining — escape routes, corridors, stairwells, and institutional or high-occupancy buildings such as hospitals, clinics and schools. The class these boards hold is on the fire-retarded core, not on the faced board. Specify a lining that carries the class the code asks for.
- SuperCool in a commercial building with a sprinkler installation. Under sustained fire the uPVC facing softens, drapes, ignites and sheds flaming and molten droplets. SuperCool is classified for agricultural use with no functional sprinklers.
- As a structural deck, a working platform, a storage surface or a fixing base. The board is a non-structural ceiling element carried by its supports. Do not stand on it.
- As the sole means of meeting SANS 10400-XA. XA is judged on the total roof/ceiling assembly (3.7 m²K/W in all zones, 2.7 in Zone 5H with a ventilated roof) and no board in either range reaches that on its own. Build the total-R stack and run it through the XA checker.
- Where the project must submit a product-specific measured thermal conductivity or U-value. Specify LiteSpan, whose core lambda of 0.03524 W/m.K is a heat-flow-meter value from the SANS 54509 Initial Type Test (OTH-T-2309-04, clause 13.9), or a bulk EPS layer supplied with a declared grade lambda.
- Against or within clearance of flues, chimneys, unlagged hot pipes, recessed downlights or downlight transformers. EPS softens and creeps at sustained temperature above roughly 70-80 degrees C.
- In contact with bitumen, tar paint, solvent-based sealants and adhesives, expanding foams with aromatic carriers, or disinfectants carried in organic solvents. These dissolve EPS on contact.
- Permanently exposed to UV or weather. This is an interior ceiling element under a roof; store and install it out of direct sunlight.
- Across beams as a self-supporting ceiling without reinforced boards on the order. Plain boards sag.
- PolyCool where the ceiling will be high-pressure washed. The vinyl foil is a wipe-clean face; the wash-down face is SuperCool's 1 mm uPVC.

- With support centres taken from a brochure table. Support centres come from Technopol with the order, for the board and build-up actually specified.

How to read this document. Every technical value carries a label saying where it came from — whether an accredited laboratory measured it, whether Technopol measured it, or whether it is simply the figure the standard tabulates for that class of material. Values we have not tested are marked as such rather than presented as test results.

This is product information, not a design. It does not replace a competent person. Technopol SA (Pty) Ltd · info@technopol.co.za · +27 11 363 2780 ·
Verify any report cited here at technopol.co.za/verify