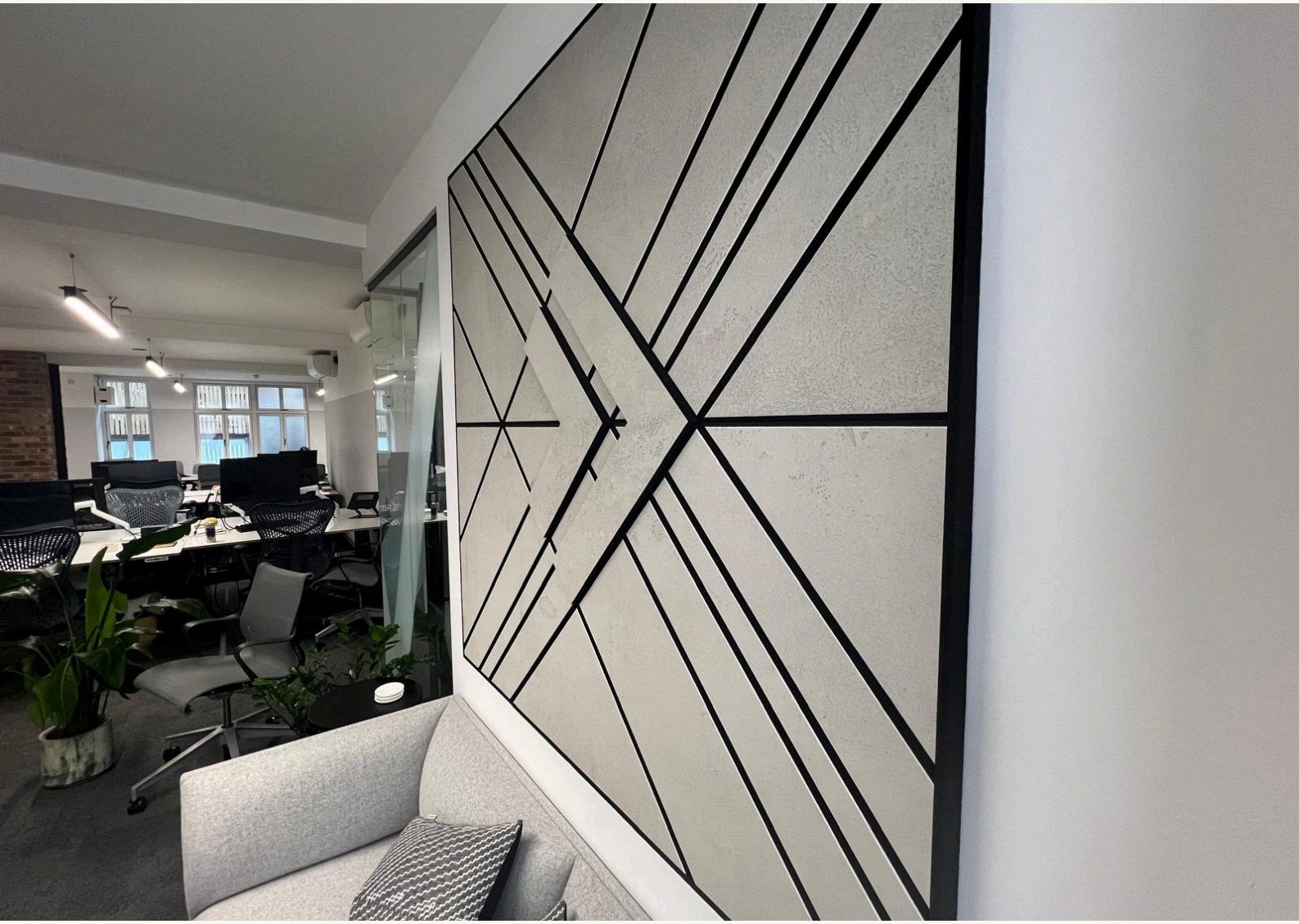
XSTONE® SURFACES



MINERAL ACOUSTIC PANELS · TECHNICAL GUIDE

# ACUSTONE® Installation guide

How to plan, cut, fix and care for ACUSTONE® mineral acoustic panels. Written for installers, joiners and site managers, with the standard 1200 × 800 mm sheet as the reference format.

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# The panel at a glance

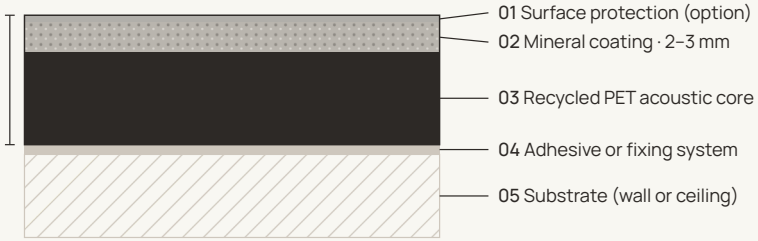
ACUSTONE® is a mineral acoustic panel: a 2–3 mm coating of real mineral material, 90 % recycled marble powder, on a sound-absorbing core of 100 % recycled PET fibre. It looks like stone or concrete, weighs a fraction of either, and is cut and fixed with ordinary joinery tools.



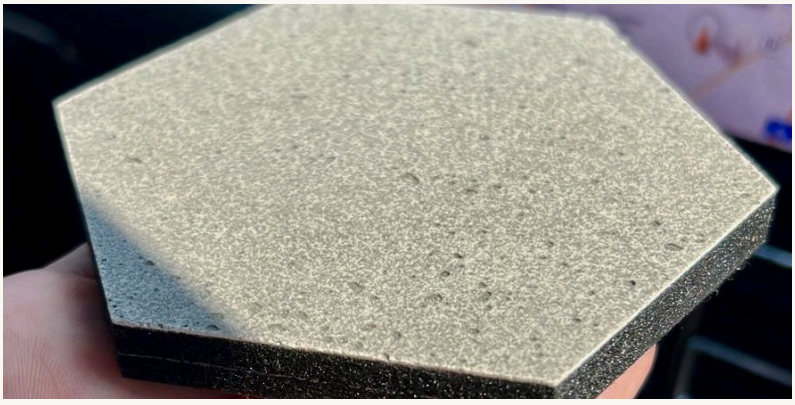

**Standard sheet · 1200 × 800 mm · 0.96 m²**

Face: mineral coating in the chosen finish. Edges and back: black recycled PET core.

CROSS-SECTION, INSTALLED




Nominal panel thickness 12 mm. Not to scale.



Material in hand: ACUSTONE® sample, 12 mm thick, 2.8 kg for a full 1200 × 800 mm sheet.

AT A GLANCE

| | |
|---|---|
| PRODUCT | ACUSTONE® · mineral acoustic panels |
| STANDARD SHEET | 1200 × 800 mm |
| LARGE FORMAT | 2800 × 1200 mm, on request |
| THICKNESS | 12 mm nominal |
| FACE | Mineral coating 2–3 mm, matt, 90 % recycled marble powder |
| CORE | 100 % recycled PET fibre, black |
| REACTION TO FIRE | B-s1,d0 panel (EN 13501-1); coating alone A2-s1,d0 |
| SOUND ABSORPTION | α 0.5 · Class D, 12 mm core (EN ISO 354) |
| EMISSIONS | A+ (indoor air, VOC) |
| OPTIONS | Self-adhesive backing · water-repellent · hard-wearing face · engraving |
| USE | Interior walls, ceilings, partitions, furniture |
| WEIGHT | 2.8 kg per sheet (about 2.9 kg/m²) |

# Before you start

A good installation is decided before the first panel goes up. Check the substrate, let the panels settle in the room, and have everything on this page within reach.

## Tools and materials

- ☐ Tape measure, pencil, long straight edge
- ☐ Spirit level or laser level
- ☐ Chalk line for long reference lines
- ☐ Sharp utility knife with spare blades
- ☐ Fine-tooth jigsaw or circular saw for curves and large volumes
- ☐ Contact adhesive, as supplied or recommended by XSTONE® (not needed for the self-adhesive version)
- ☐ Fine-notched spreader or short-pile roller for the adhesive
- ☐ Clean pressure roller or flat block
- ☐ Drill, screws and plugs for battens or clips
- ☐ Spacers for a shadow gap (2–3 mm) if specified
- ☐ Soft brush, microfibre cloth, vacuum cleaner
- ☐ Gloves, safety glasses, dust mask when sawing

## Substrate

- Sound, dry, clean and free of dust, grease and loose paint.
- Flat: no more than 3 mm deviation under a 2 m straight edge. Fill hollows and sand ridges, or fix on battens.
- Porous or chalky surfaces (plaster, plasterboard, concrete): prime first and let the primer dry.
- Painted surfaces: check the paint is well bonded. Sand gloss paints to a matt key.
- Suitable substrates: plasterboard, plaster, render, concrete, MDF, plywood, chipboard, existing tiles that are sound.
- Check for services (cables, pipes) before drilling.

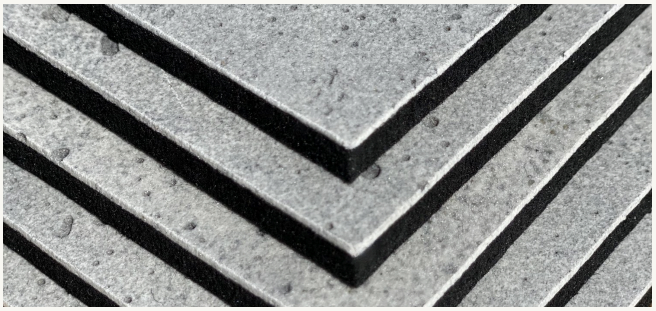
**Ceilings.** Combine the contact adhesive with a mechanical fixing (screws with washers, clips or battens). Never rely on adhesive alone overhead.

## Site conditions

- Room temperature 15–25 °C and relative humidity below 65 % during installation.
- Acclimatise the panels in the room for 48 hours before fixing, lying flat.
- Install after wet trades (plaster, screed, paint) have fully dried.
- Work in good light so colour and texture can be matched panel to panel.

## Handling and storage

- Store flat, face up, on a clean level surface, protected from moisture and direct sun.
- Carry panels on edge or face up; do not drag the mineral face across other panels.
- Keep the protective packaging on until the panel is laid out.
- Check every panel for finish, colour batch and damage before cutting. Claims cannot be accepted on installed panels.



Store flat and face up. The black edge is the PET core; the grey face is the mineral coating.

QUANTITY CHECK

One standard sheet covers **0.96 m²** and weighs **2.8 kg**. Divide the net surface by 0.96, then add **8–10 %** for cuts and pattern matching, more for diagonal layouts or many openings.

Order all panels for one surface from the same production batch and lay them out before fixing to balance the natural variation of the mineral finish.

# Step by step

Six steps, in order. Each one is short because the panel is light and cuts cleanly; the care goes into the layout and the first row.

01
STEP

## Plan the layout

Measure the surface and draw the panel grid to scale. Decide the panel direction (1200 mm horizontal or vertical), the joint type (tight butt joint or 2–3 mm shadow gap) and where the cut panels go. Place cuts at the least visible edges and keep cut strips wider than 150 mm.

Mark a true horizontal reference line with the level and a vertical centre line with the chalk line. Start from the centre of the wall or from the most visible corner, never from a floor or ceiling that may be out of level.

**Black reveal.** The PET core shows as a fine dark line at every joint. A tight butt joint gives a hairline; a 2–3 mm gap gives a clear graphic grid, as in the photo. Decide this before cutting.

02
STEP

## Prepare the substrate

Clean, fill and prime as described on page 3. Fix battens (for method B) or clips (method C) now, levelled and plumb, at the spacing in the table on page 5. Let primers and fillers dry fully before any adhesive is applied.

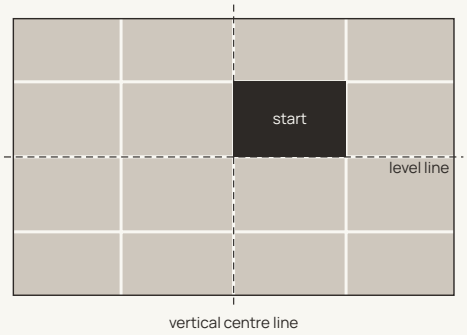
03
STEP

## Cut to size

Lay the panel face up on a clean, flat board. Mark the cut on the face. Score the mineral coating along a steel straight edge with a sharp knife, then cut through the PET core in two or three further passes. Change the blade often; a dull blade tears the fibre.

Use a fine-tooth jigsaw or circular saw for curves, openings and large quantities, with dust extraction. Cut from the face side so any break-out stays on the back. Deburr PET edges with a knife or a fine abrasive pad.

LAYOUT FROM THE CENTRE




Equal cut panels at both ends read better than one full panel and one narrow strip. Shift the grid half a panel if the centre line produces strips narrower than 150 mm.



The black core as a shadow line at a tight joint. Concrete finish, XSTONE® showroom.



Open 2–3 mm shadow gaps and a cut-through logo revealing the black core. Rough concrete finish, retail fit-out.

XSTONE® SURFACES

## 04 STEP Fix the panels

Choose one of three methods. ACUSTONE® is bonded with contact adhesive: it grips the instant the two coated surfaces touch and cannot be moved afterwards. For every method: offer the panel up dry, mark its position, then fix. Place precisely, press, do not slide, and keep adhesive off the mineral face.

| METHOD | HOW | USE IT WHEN |
|---|---|---|
| A · Direct bonding | Spread a thin, even coat of contact adhesive on the back of the panel and on the substrate. Let both flash off until touch-dry (usually 10–15 minutes; longer in cold or humid rooms). Align one edge with the reference lines, lay the panel down from that edge and press the whole face hard with a roller or flat block, from the centre out. The bond is immediate: no supports, no waiting. | Walls that are flat and sound. The quickest method and the thinnest build-up. |
| B · On battens | Fix timber or metal battens to the substrate, levelled and packed true, at 400 mm centres and under every panel joint. Coat the batten faces and the matching strips on the back of the panel with contact adhesive, let them flash off, position and press. Add hidden screws in the joint line where needed. The cavity can take insulation or cables. | Uneven walls, ceilings, when an air gap is wanted behind the panel for better low-frequency absorption, or when services must stay accessible. |
| C · Mechanical, removable | Fix hanging clips, Z-profiles or hooks to the substrate on a levelled line; fix the matching parts to the back of the panel with screws and washers into the PET core. Hang the panel and check the alignment. Panels can be lifted off later. | Exhibition and retail fit-outs, rented spaces, acoustic islands, or wherever panels must be replaced or taken down without damage. |

**Contact adhesive.** Coat both surfaces, wait until touch-dry, then join: the bond is instant and final, so a dry fit and a marked position are essential. A thin slip sheet lets you align the panel; pull it out, then press. Ventilate while working and follow the adhesive's safety sheet. **Self-adhesive version:** ACUSTONE® can also be supplied with a factory-applied self-adhesive backing. Peel the liner, position, press; no adhesive to handle on site. Specify it when ordering; the substrate rules on page 3 still apply.

## 05 STEP Joints, edges and corners

- Keep joints consistent with spacers: tight, or 2–3 mm for the shadow-gap grid.
- Leave a 2 mm movement gap at walls and ceilings; cover it with a slim trim or matching sealant if required.
- External corners: lap one panel over the other and show the black core as a detail, or mitre both panels at 45° for a continuous mineral face.
- Internal corners: butt joint, with the cut edge turned towards the less visible side.
- Cut socket and switch openings with the jigsaw before fixing; use deeper box extensions for the extra 12 mm.

## 06 STEP Check and finish

- Check each panel with the level before the next goes up; a misaligned panel has to be cut out and replaced.
- Remove joint spacers once the row is complete.
- Brush or vacuum the face; remove pencil marks with a soft eraser.
- Apply the optional water-repellent treatment, if supplied, on the dry clean face following the product instructions.

CEILINGS

Use method B or C. Battens at 400 mm centres across the panel direction, a screw and washer into the batten at every panel (hidden in the joint or under the next panel), and firm pressure over every batten.

# Engraved patterns, shapes and care

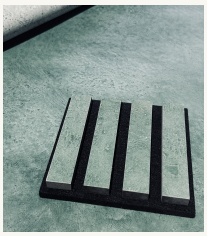
## Engraved and cut designs

Because the core is black and the face is mineral, any line cut through the coating becomes a dark drawing. XSTONE® engraves the standard patterns on page 7, custom lines, lettering and logos in the factory by CNC, and cuts panels to shape: hexagons, slats, curves.

- Specify engraving and shaped cuts when ordering; they are not meant to be done on site.
- Engraved panels are laid out in sequence. Number the back of each panel against the drawing before unpacking the next.
- Match engraved lines across joints with the same reference lines used for the grid.
- Fix shaped pieces and slats with contact adhesive (method A) on a flat substrate, or on a continuous backing board.



Engraved lettering: the cut reveals the black core.



Slats cut from one sheet, on a PET backing.



Round panels cut to shape, boardroom.

## Care and maintenance

The mineral face is matt and slightly porous, like stone. It needs little care.

| | |
|---|---|
| Routine | Dust with a soft brush, a microfibre cloth or a vacuum cleaner with a soft brush head. |
| Marks | Wipe with a cloth barely dampened in water with a pH-neutral cleaner, then dry. Test on an offcut first. |
| Avoid | Abrasive pads, solvents, bleach, acidic or alkaline cleaners, steam and pressure washers, soaking the panel. |
| Wet or busy areas | Order the water-repellent or hard-wearing surface option. Treated panels are cleaned the same way. |
| Damage | With method C, lift off and replace the panel. With A and B, cut out and replace the panel; keep two spare panels from the batch. |
| Inspection | Check joints and fixings once a year in ceilings and in rooms with changing humidity. |

ACOUSTIC PERFORMANCE

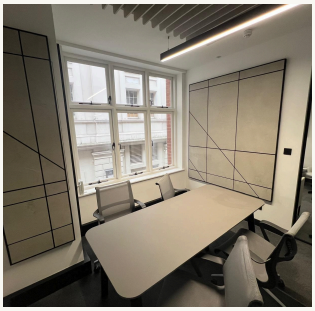
Absorption depends on the core thickness and on what is behind the panel. A cavity (method B) improves low-frequency absorption. Ask XSTONE® for the test report that matches your build-up before quoting an absorption class.



Full-height wall with printed mural on ACUSTONE® panels. XSTONE® showroom.




Sample stand: the standard finishes on the black PET core, ready to compare.



Meeting room: engraved ACUSTONE® panels, office fit-out.



Framed feature panel with engraved pattern, same office, lounge area.

# Finishes and patterns

Every ACUSTONE® panel carries a real mineral finish: concrete, travertine, rust, copper, brick or wood effects, in the standard references below or in a colour matched to the project. Name the finish, the colour and the reference when ordering.

## AMONG THE STANDARD FINISHES



Concrete Smooth
Grey



Concrete Rough
Grey · 1015



Concrete Mandala



Concrete Wooden



Fire Plank
Black



Travertine
Beige de Paris



Travertine
King Louis



Rust
Smooth



Copper
Spider



Brick
Red Splash

## STANDARD ENGRAVED PATTERNS



Break · Brut · Circulus · Diagonal · Diametro · Metro · Subway · Versus

Patterns are engraved through the mineral coating into the black core. Custom patterns, lettering and logos are produced from your drawing.

HOW TO SPECIFY

**Finish · Colour · Reference · System**

Example: Concrete Rough · Grey · 1015 · ACUSTONE® mineral acoustic panel, 1200 × 800 × 12 mm, pattern Diagonal, water-repellent option.

# Certifications and responsibility

XSTONE® manufactures its mineral coatings from 90 % recycled marble powder, reusing quarry waste in a low-energy, low-water process. The ACUSTONE® core is made from 100 % recycled PET fibre without chemical binders. Panels are light to transport, which lowers $CO_2$ emissions by up to 95 % compared with natural stone, and they can be recycled at the end of their life.

| | |
|---|---|
| Reaction to fire | B-s1,d0 for the ACUSTONE® panel (EN 13501-1). The mineral coating alone is classified A2-s1,d0. |
| Sound absorption | Tested to EN ISO 354. α 0.5, Class D for the 12 mm PET core; other thicknesses and build-ups on request with their test reports. |
| Indoor air | A+ VOC emission class. |
| Core | Non-toxic, non-allergenic, non-irritant recycled polyester fibre. |
| Marking | Products certified to European standards (CE). |

**CE.** Certified to European standards.

**A+.** Indoor air emissions, the best class.

**BREEAM.** Contributes to Materials and Resources, Indoor Environmental Quality and Innovation in Design.

**LEED.** Contributes to MRc1 Construction Waste, MRc2 Building Life-Cycle Impact, MRc4 Material Ingredients and MRc5 Responsible Sourcing.

Credit contributions depend on the project and the assessment version. Ask XSTONE® for the supporting documents.

TECHNICAL ASSISTANCE

## Talk to our team

Questions on substrates, adhesives, acoustic build-ups or custom patterns are answered before you order and while you install. Send drawings and photos; we reply with a recommendation.

Request samples →

Discuss your project →

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This guide gives general instructions for ACUSTONE® mineral acoustic panels. Site conditions, substrates and adhesives vary; where they differ from the cases described, ask XSTONE® before installing. Performance values refer to the tested construction named with each value. Edition 10 / 2026; it replaces all previous editions.

STONE CHARACTER. FREEDOM OF FORM.