

SupercreteTM

Sustainable Cost Effective Construction & Coating Systems



Soundfloor Brochure

Sound Insulation • Quality

Thermal Insulation • Fire Resistant



SupercoatTM

100% NZ
Owned & Operated

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What is Supercrete™ Soundfloor?

Supercrete™ 75mm Soundfloor is a lightweight autoclaved aerated concrete (AAC) panel that can be fixed to timber or steel joists. It provides the feel of a rigid concrete floor but with the advantage of providing an instant working surface, along with acoustic and thermal benefits.

Benefits

- **No Propping required** as panels are supported by permanent floor joists.
- **Rapid Installation** with typical placement rates of 70m² per day.
- **Fire resistant** - panels are totally inorganic and incombustible.
- **Superior Acoustic insulation** creating a sound barrier between floors.
- **Accuracy of manufactured panels** results in less on site cutting and wastage.
- **No pre-drilling** is required as all fixings can self tap through panels.
- **Good load carrying capacity** as this system can support up to 3 kPa uniform loads.
- **Smooth finish of panels** provides an excellent substrate for any type of floor covering without additional preparation.

- **Lightweight panels** can easily be handled on sloping sites with difficult access where a suspended floor is required.
- **Non-Toxic** - as with all Supercrete™ products, Supercrete™ 75mm Soundfloor does not contain any toxic gases or substances.
- **Pest and rot resistant** - panels are not a food source for insects, vermin or fungus.

Components

- **Supercrete™ 75mm Soundfloor** is manufactured from lightweight autoclaved aerated concrete. They are reinforced with a single layer of steel mesh and have tongue and grooved edges with a stock size of 1800 x 600 x 75mm, and weigh approximately 62kg. Panels can be cut dry on site using a circular saw with a segmented diamond blade.
- **Supercoat™ AAC Superbond Adhesive** is used on all panel edges for edge jointing of panels.
- **Construction adhesive** is used to bond panels to all supporting joists with a minimum bead of 5mm. Two beads are used at end butt joints.
- **Screw fastenings** - Bugle head screws (14-10 x 100mm) for timber joists and hex head self-tapping screws (14-10 x 95mm) for steel joists, are used to fasten panels to joists with two screws per panel per joist. Using screws at panel end joins is optional depending on width of joists. See Details A & C for steel and timber joist fastenings.



Design Considerations

Structural Design

Supercrete™ 75mm Soundfloor is designed for a maximum uniform loading of 3 KPa and a maximum concentrated loading of 1.8 kN on a maximum joist spacing of 600mm. Floor joists should be designed for the 57 kg/m² dead load of the panels. Typically, closing of joist centers to 450mm provides a stiffer floor with optimum results. Additional blocking between joists should support all concentrated loads and the localised bearing stress on the AAC should be limited to 1 kPa.) Joists to be sized from Load Tables on website www.superbuild.co.nz or by specific design.

Acoustic performance

Supercrete™ 75mm Soundfloor has been laboratory tested to establish sound insulation characteristics and these are shown in Table 1.

Thermal performance

Thermal resistance of various floor/ceiling combinations are given in Table 1.

Fire resistance

Fire resistance levels of floor/ceiling combinations are shown in Table 1 for fire above and below the floor.

Delivery and Storage

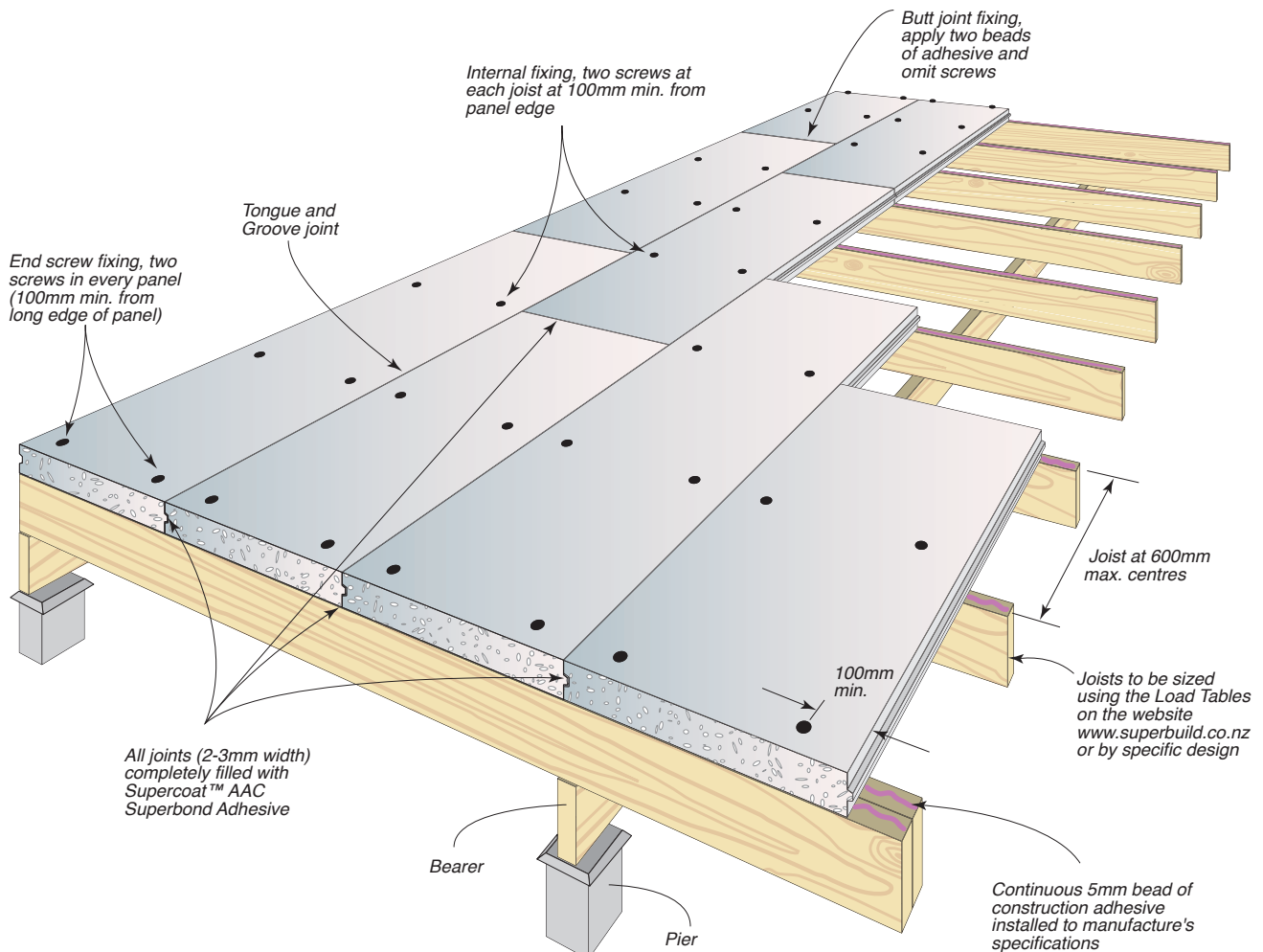
Supercrete™ Flooring Panels are supplied in bundles of 10 on pallets in plastic wrapping. Each pallet can weigh up to 620 kg so careful placement is required if placed on the structure under construction. Pallets can be placed two high if space is at a premium. Panels should be kept dry before placement to reduce handling weight.

Installation

Typical panel fixing details are shown in details A, B & C.

Panels are installed in stretcher bond with a minimum overlap of 600mm. Construction adhesive is applied to each joist and Supercoat™ AAC Superbond Adhesive is applied to panel edges. Panels must be placed with minimal sliding on joists. Panels are located on edge grooves and then lowered into position forcing the tongue and groove joint closed with good adhesive bonding.

Detail A. Supercrete™ 75mm Soundfloor Panel Fixing Details



Screws into joists are driven without drilling of panels and excessive adhesive should be removed immediately. Screw holes are filled with Supercoat™ AAC Superbond Adhesive and any chips on panel edges should be filled with Supercoat™ AAC Superbond Adhesive, preferably combined with Supercrete™ dust to reduce shrinkage for larger repairs.

Where cutting of panels lengthwise is required, the minimum width of cut panel allowable is 270mm to ensure sufficient reinforcing is located in each panel. If a narrower piece is required against a floor edge, the last two panels should be reduced in width so that both exceed 270mm in width. All reinforcing exposed on cut panels should be coated with anti-corrosion agent.

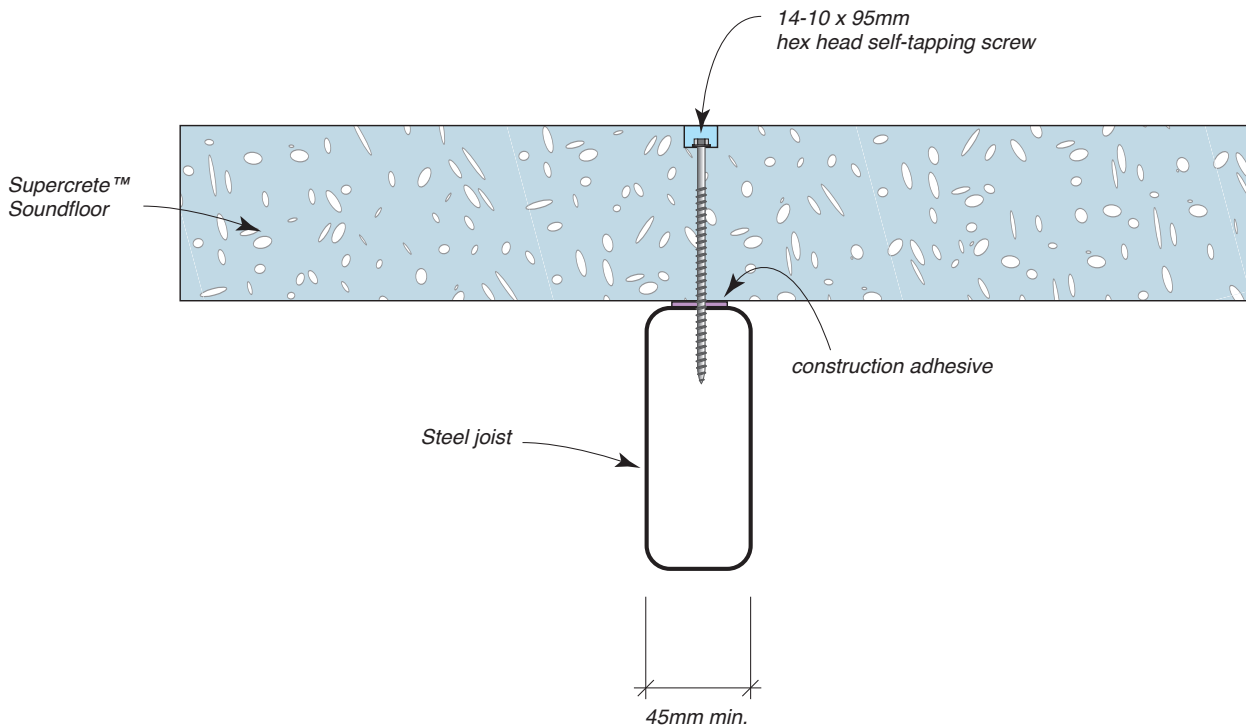
Control Joints

Movement control joints should divide the floor panels into separate floor diaphragms of a maximum of 6.0 m long in either direction. See detail D for typical control joint details.

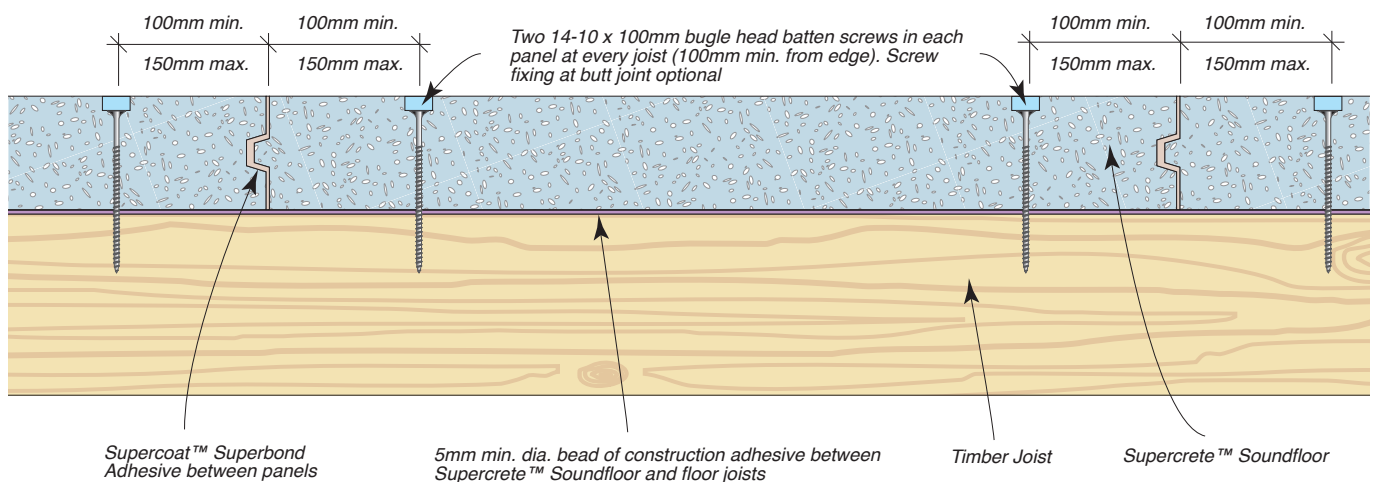
Control joint locations should be as follows:

- At changes in panel and joist orientation as shown in Detail E.
- At load bearing bracing walls to ensure that the floor diaphragm is continuous between bracing walls.
- Over support walls or beams.
- At 6.0 m maximum spacing.

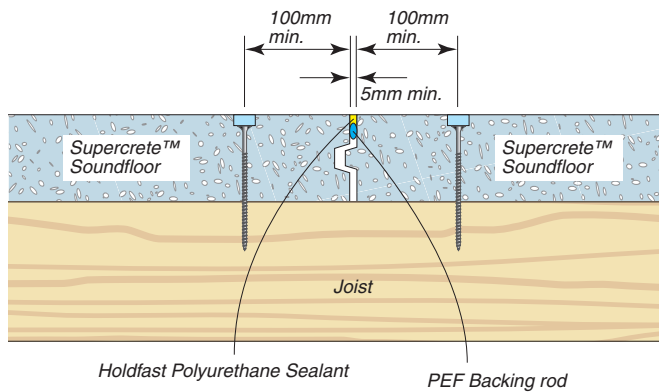
Detail B. Fixing to Steel Joists



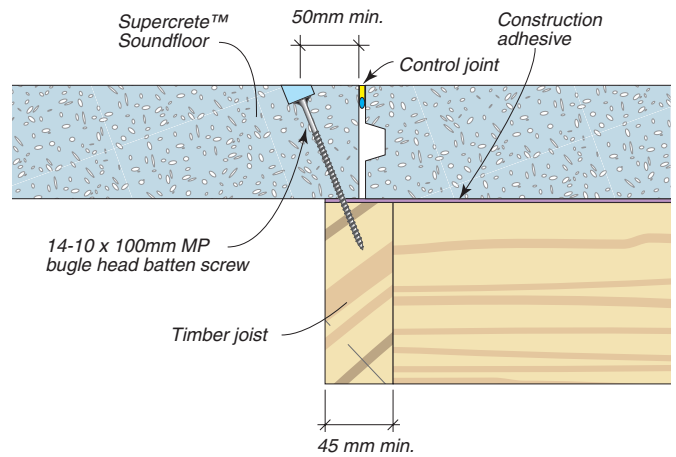
Detail C. Cross-section of Supercrete™ 75mm Soundfloor Installation on Timber Joists



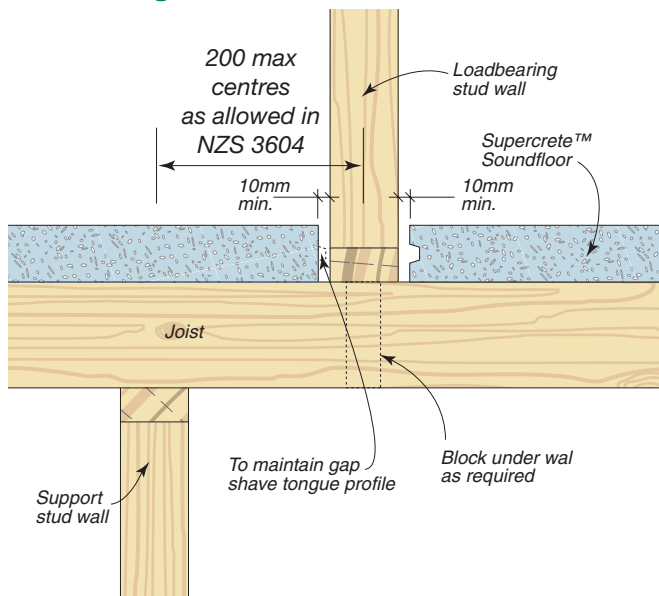
Detail D. Movement Control Joint Detail



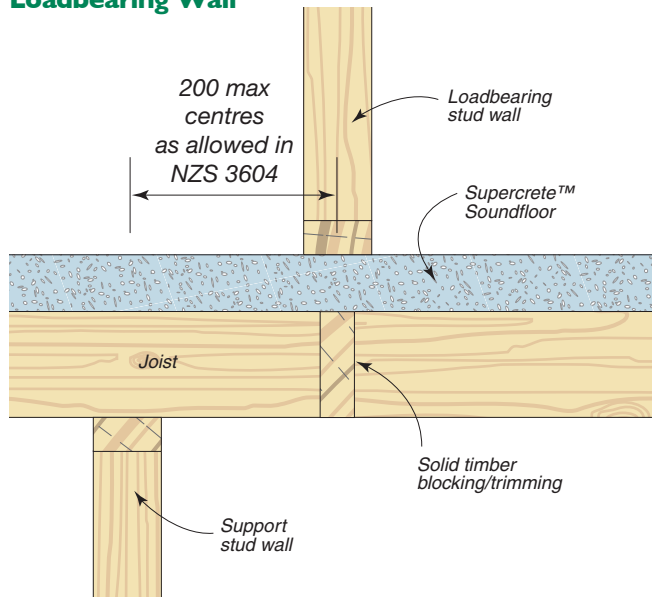
Detail E. Fixing to Timber Joists at change in Joist Orientation



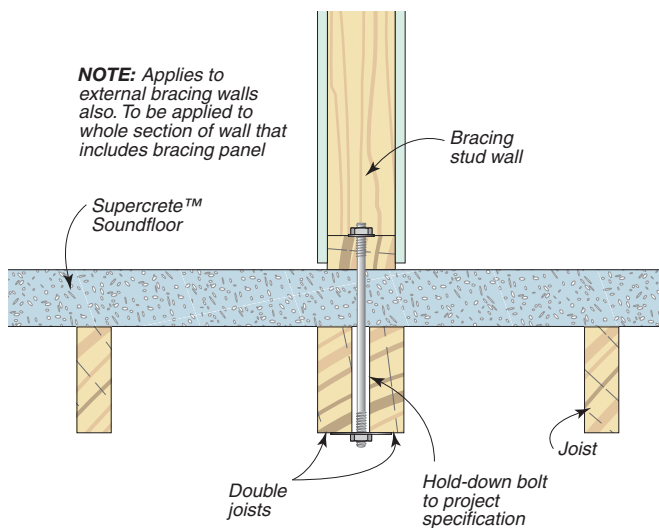
Detail F. Fitted Flooring with Internal Loadbearing Wall



Detail G. Platform Flooring with Internal Loadbearing Wall



Detail H. Hold-down of Internal Bracing Wall Parallel to Joists on Platform Floor



Should I use a fitted or platform floor?

Fitted and platform type floors are shown in Details F & G.

Fitted flooring is where the Supercrete™ 75mm Soundfloor is placed between the framed walls, after the walls are erected. Fitted floors are required where the bearing stress on the floor panels would exceed 1 MPa, either on top of the joists or blocking under the panels, or under the bottom plates of partitions. Fitted floor panels should finish with a 10mm minimum gap between the panel and the wall framing.

Can be used in all situations, including external & internal bracing walls, if fixings to NZS 3604.

Platform flooring is where the floor is laid before the wall partitions are erected, and all wall frames sit on top of the Supercrete™ Soundfloor. It can only be used where bearing stresses are less than 1 MPa. To give the equivalent holding down capacity required by NZS 3604, bottom plates should be fastened with 14-10 x 100mm Bugle head screws at maximum 300mm centers. All bracing walls on platform floors require bottom plates to be fastened with bolts through the Supercrete™ Soundfloor to blocking on the underside as shown in Detail H.

Table 1. Supercrete™ Panel Floor Properties

Ceiling System	Floor covering	Fire FRL	Thermal R	Acoustic		
				Rw	Rw+Ctr	IIC
Nil	Carpet on medium duty underlay	240/240/240	0.91 0.86	33	30	66
	8mm ceramic tile with flexible adhesive on waterproof membrane	240/240/240	0.78 0.73	32	29	13
	8mm ceramic tile with flexible adhesive on concrete topping slab for fall on waterproof membrane	240/240/240	0.68 0.69	37	33	18
	Vinyl sheet floor covering on 6.8mm sheet underlay	240/240/240	0.73 0.68	37	33	34
	19mm T & G hardwood flooring on 75 x 30mm timber battens	240/240/240	0.94 0.89	37	33	25
<ul style="list-style-type: none"> Timber joists with 230 min. cavity R1.5 fibreglass batts Rondo furring channel on resilient mounts on alternate joists with 1 layer of 13mm plasterboard 	Carpet on medium duty underlay	nil	3.23	55	48	72
	8mm ceramic tile with flexible adhesive on waterproof membrane	nil	3.1	54	48	28
	8mm ceramic tile with flexible adhesive on concrete topping slab for fall on waterproof membrane	nil	3.07	56	49	33
	Vinyl sheet floor covering on 6.8mm sheet underlay	nil	3.05	58	51	40
	19mm T & G hardwood flooring on 75 x 30mm timber battens	nil	3.26	55	48	44
<ul style="list-style-type: none"> Timber joists with 230 min. cavity R1.5 fibreglass batts Rondo furring channel on resilient mounts on alternate joists with 1 layer of 13 and 16mm Gyprock Fyrcheck plasterboard or similar 	Carpet on medium duty underlay	60/60/60	2.82	58	52	75
	8mm ceramic tile with flexible adhesive on waterproof membrane	60/60/60	2.7	57	51	31
	8mm ceramic tile with flexible adhesive on concrete topping slab for fall on waterproof membrane	60/60/60	2.67	59	53	36
	Vinyl sheet floor covering on 6.8mm sheet underlay	60/60/60	2.64	60	54	42
	19mm T & G hardwood flooring on 75 x 30mm timber battens	60/60/60	2.86	58	50	47

Key: Fire from above only (applies to all ceiling systems)
Fire from below only
External winter conditions below

External summer conditions below
Internal conditions below



Wet Areas

All wet areas require the waterproof Supercoat™ Tanking Membrane over the Supercrete™ Soundfloor. This includes exterior decks, tiled areas in bathrooms, laundries etc.

Penetrations and Notches in floor panels

Supercrete™ Soundfloor can accommodate a maximum circular penetration of 80mm diameter without compromising the panel strength. Where multiple holes are required, these should all be in a straight line parallel to the long panel edge. The maximum width of notching in a panel is a quarter of the panel width and no notching is allowed in panels less than 400mm wide. All openings in floors for pipes/services etc. should have full blocking to support panels around openings and movement joints should be installed around all services.

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