

# Masons NZ Ltd Enviro AAC Panel Floor System

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# 1 Specification Details

Trade Sections: Carpentry

Description: AAC Panel Floor System

Keywords: AAC, Autoclave, Aerated concrete, Acoustic, Intertenancy, Noise reduction, Sound proofing, dividing floor, Sound treatment, Internal floor

## 2 Clauses

### 2.1 Scope

*Help Note:*

For technical information on products to attach to this project, please visit [productspec.co.nz/en/supplier/masons](http://productspec.co.nz/en/supplier/masons)

#### 2.1.1 Scope:

Supply and install Masons Enviro - AAC Panel Floor System, as specified herein, to the locations and details shown on the design drawings, complete with all necessary components and accessories required for proper installation and performance. All aspects of this work shall comply with the NZ Building Code, related Masons Enviro - AAC Panel Floor System technical literature and publications (check <http://mpb.co.nz>, or email [info@mpb.co.nz](mailto:info@mpb.co.nz), or call 0800 522 533 for the latest editions), and other relevant product manufacturers' recommendations.

Masons Enviro - AAC Panel Floor System is PASS (Producer Assurance Supplier Statement) assured to comply with the NZ Building Act 2004 subject to specific conditions and limitations – refer to PASS (Producer Assurance Supplier Statement) 19305.

No substitutions are permitted for Masons Enviro - AAC Panel Floor System.

For the purpose of this specification, Masons Enviro - AAC Panel Floor System is referred to as 'Masons Enviro - AAC Panel Floor System', and all Masons NZ Ltd associated technical literature and publications, including the Product Technical Statement, installation instructions and drawings, are collectively referred to as the 'technical literature'.

Masons Enviro - AAC Panel Floor System is designed for residential and commercial buildings.

Extent of work:

The following is a list and/or general description of the extent of the Masons Enviro - AAC Panel Floor System, which are more specifically defined in the contract documents, required for the completion of the contract works:

## **2.2 Requirements**

### **2.2.1 Safety:**

Comply with the Health and Safety at Work Act 2015 (HSWA), and with all relevant Health and Safety at Work Regulations 2016, and with all relevant WorkSafe New Zealand (WorkSafe) Approved Codes of Practice and WorkSafe Information and Guidance, particularly those for construction and building maintenance.

### **2.2.2 Warranty:**

Masons Enviro - AAC Panel Floor System Warranty is provided in accordance with the warranty terms and conditions.

- 15-year warranty for Masons Enviro - AAC Panel Floor System materials and installation.
- Provide all information to the requirements of the Masons NZ Ltd standard warranty .
- Commence the warranty from the proven date of purchase or dispatch from 'Mason's NZ Ltd'.

Include a copy of the manufacturer's maintenance requirements with the warranty.

### **2.2.3 Substitutions:**

The Masons Enviro - AAC Panel Floor System shall be as specified herein and on the design drawings. The substitution of the Masons Enviro - AAC Panel Floor System for an alternative brand, system or product is not permitted under any circumstances.

The substitution of a specified Masons Enviro - AAC Panel Floor System or component for an alternative Masons NZ Ltd system or component by the Contractor shall only be permitted with the Contract Administrator's written authorisation and shall be at no additional cost to the Principal. Should any resultant extra work and/or redesign work be required to accommodate an alternative Masons Enviro - AAC Panel Floor System or component to satisfy design, performance and compliance requirements, then the cost of these shall be borne by the Contractor.

### **2.2.4 Producer statement (PS3)**

The Masons Enviro - AAC Panel Floor System installer shall furnish a fully completed PS3 Producer Statement (Construction) at time of application for Code Compliance Certificate. The Producer Statement shall accurately reflect the scope of the installation of the floor System in accordance with the consented drawings and specifications.

### **2.2.5 Inspections & reporting:**

BCA inspections shall take place at each of the stages as scheduled in the Building Consent. Confirm a written programme to facilitate these inspections, including notification when each stage of the work is ready for inspection.

Carry out all necessary pre-installation and installation inspections for each area of the works.

Complete all necessary Pre-Installation Checklists prior to installation, and all necessary Installation Checklists.

Complete all necessary Final Checklists and Installation Sign-Off Certificates before handing over completed work.

#### **2.2.6 Quality assurance:**

Maintain and comply with industry-recognised quality control and assurance procedures to ensure that all stages of the work are carried out to the highest standard.

#### **2.2.7 Defective materials & workmanship:**

Should defective materials and/or work be found at any time before the final acceptance of the work, it shall be rejected.

Rejected Masons Enviro - AAC Panel Floor System materials and work shall be repaired and/or replaced to the satisfaction of the Contract Administrator without delay and at no additional cost to the Principal.

### **2.3 Enviro - AAC Floor Panel System:**

#### **2.3.1 Enviro - AAC Panel Floor System:**

Masons Enviro - AAC Panel Floor System is a floor system for use as an acoustic dividing floor.

Masons Enviro - AAC Panel Floor System comprises autoclaved aerated concrete panels - 75mm thick and reinforced with corrosion protected steel wires. The panels are fixed to a light timber framed or light steel framed flooring systems.

Enviro 75mm Floor Systems are constructed in accordance with this manual and can support a maximum uniformly distributed load of 0.35kPa, or a concentrated live load of 2.7kN with joists at 600mm maximum centered (550, 440 or 366mm centres are recommended to suit the panel length of 2200mm). Enviro Floor Panels have been designed to support a concentrated live load of 2.7kN applied over a 0.3m x 0.3m area. Concentrated loads from load bearing walls or point loads shall be supported by additional framing such as joists or blocking.

Enviro 75mm AAC floors will meet or exceed the minimum IIC and STC requirements (Enviro AAC Floor Panel System Design and Installation Guide V2.0 July 2024) of the NZBC - G6 when 12mm carpet over 8mm of chip foam underlay is laid on top, and a minimum of 240 deep joists are used with 75mm acoustic batts and resilient mounts and furring channels to support a minimum 10mm plasterboard ceiling. Contact Masons NZ Ltd for more information.

Location – suitable for residential and light commercial buildings

Masons Enviro - AAC Panel Floor System construction:

- Floor system – Enviro – AAC Panel Floor
- Floor screed (Option) - refer to separate specification

- Mass – 42 Kg per 1800mm x 600mm panel or 51 Kg per 2200mm x 600mm panel.
- Fire resistance - Refer to Masons NZ Ltd.
- Sound transmission loss – 35 db @ 1000 hz
- Total floor thickness – 75mm
- Standard Panel size – 2200mm x 600mm. (Option - 1800mm x 600mm panel refer to Masons NZ LTD)

Installed as an internal floor system in accordance with the manufacturer's requirements and as shown on the drawings.

Location:

## 2.4 System Components & Accessories

### 2.4.1 Mason's Enviro - 75mm AAC floor panel:

Mason's Enviro 75mm Aerated Concrete floor panel manufactured from cement, sand, lime and water and aerated by the addition of an expanding agent. Each panel is re-inforced with corrosion protected steel wire. Once formed each panel is cured with steam pressurised autoclave for 12 hours.

Panel size: 2200mm x 600mm

Panel width: 75mm

Mass: refer to 'Enviro - AAC floor panel system' clause

Fire rating: refer to 'Enviro - AAC floor panel system' clause

Size:

Location:

### 2.4.2 Mason's Enviro AAC mortar glue:

Masons Enviro AAC mortar glue manufactured to Mason's technical requirements.

Unit Quantity - 25KG

NOTE: Other approved adhesives are available - refer to Masons NZ LTD.

Location:

### **2.4.3 MS sealant & PU Foam:**

Low expandable polyurethane foam that complies with AAMA 812-04 and moisture compatible flexible sealant for use in penetrations of Enviro Floor Panels.

Low expandable polyurethane foam & MS sealant to Masons NZ LTD technical requirements.

Location:

### **2.4.4 Mason's 14# x10x100mm long galvanised Bugle head (Class 3) screw Fasteners:**

Proprietary 14# x10x100mm long galvanised Bugle head (Class 3) screws manufactured to Mason's technical requirements.

Location:

### **2.4.5 Mason's 14# x10x120mm long galvanised Bugle head (Class 3) screw Fasteners:**

Proprietary 14# x10x120mm long galvanised Bugle head screws (Class 3) manufactured to Mason's technical requirements.

Location:

### **2.4.6 Masons 14# x10x150mm long galvanised Bugle head (Class 3) screw fasteners:**

Proprietary 14# x10x150mm long galvanised Bugle head (Class 3) screws manufactured to Mason's technical requirements.

Location:

## **2.5 Co-operation**

### **2.5.1 Co-operation:**

Co-operate with other trades to ensure that all preliminary and preparatory works are completed to specification and as shown on the drawings.

Coordinate with other trades, as required, the assembly and installation of the Masons Enviro - AAC Panel Floor System to the required layout, details, and tolerances.

## **2.6 Workmanship**

### **2.6.1 Workmanship:**

Installation of the Masons Enviro - AAC Panel Floor System shall only be carried out by a Licensed Building Practitioner, familiar with the specified products and their installation techniques, in accordance with the manufacturer's requirements and Technical Literature, and within the warranty requirements.

All installation techniques shall be exactly as recommended by Masons NZ Ltd. All work shall be such as to leave a neat, robust and structurally sound installation, to the required standard and free from damage and defects.

Take all reasonable measures during installation to protect the Masons Enviro - AAC Panel Floor System components from damage.

Make all necessary provisions to protect adjacent finished work and surfaces from damage during installation.

## **2.7 Delivery & Handling**

### **2.7.1 Delivery & handling:**

Enviro AAC floor panels are sometimes damaged in transport, upon delivery, open all pallets of Enviro Floor 75mm AAC Panel and check the condition of the panels. Small damage may be repaired using Enviro Glue mortar. Larger damage must be cut down/ off or the panel replaced. Promptly advise the supplier of any panels that require replacement and provide photo evidence. Re-cover the panels until ready to crane up onto the floor framing.

Store components and accessories undercover in a secure and weatherproof space, off the floor, on a flat and level surface in accordance with the manufacturer's requirements. Ensure stored items are protected from damage and contamination and imposed loads until required for installation.

Should a problem be encountered with any Masons Enviro - AAC Panel Floor System item during use or delivery, immediately contact Masons NZ Ltd on 0800 522 533. Do not continue to use the item that is not performing to specification or expectation. Keep the item in question and where possible, the packaging and/or manufacturer's details.

Handle materials in accordance with the manufacturer's requirements and in a manner that prevents damage and marking and does not reduce its performance.

Installers shall be familiar with, and comply with, the manufacturer's safe handling requirements and precautions for use, and shall use appropriate safety gear as necessary.

Installers shall conform to all relevant WorkSafe <http://www.worksafe.govt.nz> NZ Guidelines and Codes of Practice - including the OSH Guidelines For the Provision of Facilities and General Safety in the Construction Industry.

## **2.8 Preparation**

### **2.8.1 Preparation:**

Prior to installation, carry out all necessary inspections of the supporting structure to ensure all preliminary work is complete. Do not commence installation until all necessary preliminary work by others is complete and to the required standard. The commencement of work on each section of the installation shall be deemed to indicate full acceptance by the Installer that all preliminary work by other trades is complete and to the required standard.

Supporting structures shall comply with the NZ Building Code, and must be structurally sound and dimensionally stable and in the correct alignment, true to line and level.

Confirm the location of all movement control joints prior to the commencement of the works.

Concrete:

- Supporting reinforced concrete elements shall comply with NZS 3101, or NZS 3604.
- New concrete must have aged for a minimum of 28 days prior to installation.

Concrete Masonry:

- Supporting reinforced concrete masonry elements shall comply with NZS 4229, or NZS 4230 and AS/NZS 1170.

Timber Framing:

- Supporting timber-framed structures shall comply with NZS 3604, or NZS 3603 and AS/NZS 1170.

Structural Steel:

- Supporting steel structures shall comply with NZS 3404.

## **2.9 Installation**

### **2.9.1 Installation:**

Masons Enviro AAC Panel floor System is to be installed to the requirements of the technical literature.

Prior to installation:

- Check that the floor framing has been installed according to the requirements of the Enviro 75mm AAC Flooring System.
- Plan for any additional blocking or support that may be needed for large penetrations, bracing walls, or off joist joints or other requirements.
- Check floor framing is level and true and adjust, as necessary.
- Check all fixings adhesives sealants and foams are on site prior to commencing.

Installation:

Panels must be cut to size so that wherever possible, no reinforcing steel is exposed to openings or corners. The last row of panels may be cut lengthwise to fit the floor width. Where steel reinforcing is exposed, it must be treated with zinc primer. Grind off any 'nib' left by cutting so panel ends are flush and true.

Plan for panels to run at right angles across the joists fixed in a staggered brick bond pattern.

Expect a small amount of panel edge 'creep' across the centre line of the joists as the panels are laid, and plan for where in the job this can be corrected such as a stair void or other floor cut-outs. Otherwise trim the panel ends to maintain centring on joists as needed.

- Measure 600mm in from the boundary joist (edge of the floor) at both ends of the framing run (ends of the floor), mark a line parallel to the boundary joist. Repeat this method at 600mm intervals across the building.
- Mist spray floor framing with water, then spread a continuous 5mm bead of the approved construction adhesive, or adhesive foam along the joists under the first panel run.
- Starting from a corner, place the first Enviro Floor Panel onto the construction adhesive or foam. Ensure the panel is parallel with the boundary joist.
- Two screws are required in each panel at each joist. Three screws are required in the end of the panel where panels are butt jointed over framing, these may be skewed to achieve the 50mm end distance requirement. The screws must be wound into the panel until the head is 2mm to 3mm below the panel surface. 30mm minimum penetration into the floor framing is required.
- Panels must be supported on a minimum of two floor joists.
- If the panel is to be jointed edge-to-edge with Enviro Glue Mortar, after mixing with clean water to the right consistency, spread 2-3mm thick along the vertical end of the panel.

or,

- If the panels are to be edge bonded with construction adhesive or foam – mist with clean water, then apply two beads of PU adhesive or foam to the panel edge either side of the tongue and groove line, and at the panel ends.
- Mist with water first – then spread a continuous 5mm bead of the approved construction adhesive, or adhesive foam along the joists under where the second panel will be placed, install it butting the second panel hard against the fixed panel. Ensure the second panel is parallel with the boundary joist and screw to floor joists as before. Repeat this procedure along one side of the floor framing – edge of the building. *NB: The approved construction adhesive or foam may be substituted for Enviro Glue Mortar to joint panels end to end and edge to edge.*
- Lay the next row of panels in a half stretcher bond pattern, apply construction adhesive or foam to the floor framing, and either Enviro Glue Mortar, or the approved construction adhesive or foam to the vertical edges of the panel. Place the panel engaging the tongue and groove with the first row of panels using firm pressure and screw the panels to the floor joists.
- If a floor screed or topping is not to be used, then Enviro Glue may be used to fill fixing holes, panel joints and cavities to create a level floor deck. This is optional step that increases the water resistance of the floor deck during construction, and the chance of holes of joints telegraphing through floor coverings.

Isolated penetrations up to 80mm diameter can be made in the Enviro Floor Panel without reducing their overall structural performance. Larger penetrations or clusters of penetrations shall be trimmed

by framing members. Penetrations should be sealed using an appropriate flexible polyurethane sealant or proprietary collar.

Where bracing walls occur on top of the Enviro Floor Panel, additional framing shall be incorporated in the floor framing as follows:

- For bracing walls parallel with the floor joists, the bracing wall shall either be over a joist, or be supported by solid blocking. Blocking shall have a minimum width of 45mm.

A waterproof membrane installed in accordance with the manufacturer's recommendations shall be applied to Enviro Floor Panels in all wet areas.

## **2.10 Completion**

### **2.10.1 Completion:**

Check the Masons Enviro - AAC Panel Floor System has been correctly installed in accordance with the manufacturer's requirements to the locations, layout and details shown on the design drawings.

Check the installation for damage and defects. Carry out any necessary repairs in accordance with Masons NZ Ltd requirements to the required standard. Replace Masons Enviro - AAC Panel Floor System elements where repair is not possible or will not be accepted.

Leave all of this work complete, clean and free from damage and defects, and to the required standard in accordance with the manufacturer's requirements.

Leave surrounding surfaces clean and free of rubbish and debris. Remove all rubbish and excess material from the site.

Issue to the Owner a copy of the manufacturer's maintenance requirements (if any) and a copy of the Masons NZ Ltd Warranty.

## **3 Compliances**

- 1170.0:2002(AS/NZS) - Structural design actions - Part 0: General principles
- 1170.5:2004(NZS) - Structural design actions - Earthquake actions - New Zealand
- 1530.4:2014(AS) - Methods for fire tests on building materials, components and structures - Fire-resistance tests for elements of construction
- 3604:2011(NZS) - Timber-framed buildings
- NZBC B1 - Structure
- NZBC B2 - Durability

- NZBC C1-C6 - Protection from Fire
- NZBC F2 - Hazardous Building Materials
- NZBC G6 - Airborne and Impact Sound

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