**NOTE: Green text is for instruction only and not to be included in the final specification**

**1 Concrete**

**1.1 Preliminary**

Refer to General Conditions of Contract and the Special Conditions in this Specification as

appropriate. Read this section in conjunction with all other trade sections.

**1.2 Compliance**

Comply with the New Zealand Building Code 1992 including all revisions and amendments,

Verification Methods where appropriate, and construction principles that are embodied in the Acceptable Solutions.

Comply with all relevant provisions and recommendations of:

AS/NZS1170.0:2002 Structural design actions - Part 0: General principles

AS/NZS1170.1:2002 Structural design actions - Permanent, imposed and other

 actions

AS/NZS1170.2:2011 Structural design actions - Wind actions

NZS1170.5:2004 Structural design actions - Earthquake actions - New Zealand

AS/NZS4671:2001 Steel reinforcing materials

**1.3 Supercrete™ Structural Floor Panel System**

**1.3.1 Scope**

Supply and install Supercrete™ Structural Floor Panel System to the locations identified on the drawings, complete with system accessories. All aspects of this work shall be in complete accordance with Supercrete™ Structural Floor Panels Design & Installation Guide (check www.superbuild.co.nz, or call 0800 464 787 for the latest editions), other relevant product manufacturers' recommendations, and as shown on the drawings.

No substitutions are permitted for Supercrete™ Structural Floor Panel System.

**1.3.2 System Components**

Choose one of the following paragraphs

Supercrete™ Structural Floor Panel - 150mm thick

Supercrete™ Structural Floor Panel - 150mm. 600mm wide x 150mm thick, with a bevelled rebate along one side and single groove along the other, double-cage steel mesh reinforced, lightweight Autoclaved Aerated Concrete (AAC) structural floor panels. 86.5kg/m² nominal weight at 10-12% moisture content. Maximum 5kPa uniform Live Load. Non-toxic and non-combustible. To the lengths specified on the drawings.

Installed as self-supporting structural floor panels with steel 'ring anchor' reinforced and grout filled longitudinal joints in accordance with the Supercrete™ Structural Floor Panel Design & Installation Guide and the approved design drawings.

Location: List locations on building of 150mm Supercrete™ Structural Floor Panel

Supercrete™ Structural Floor Panel - 200mm thick

Supercrete™ Structural Floor Panel - 200mm. 600mm wide x 200mm thick, with a bevelled rebate along one side and single groove along the other, double-cage steel mesh reinforced, lightweight Autoclaved Aerated Concrete (AAC) structural floor panels. 115.5kg/m² nominal weight at 10-12% moisture content. Maximum 5kPa uniform Live Load. Non-toxic and non-combustible. To the lengths specified on the drawings.

Installed as self-supporting structural floor panels with steel 'ring anchor' reinforced and grout filled longitudinal joints in accordance with the Supercrete™ Structural Floor Panel Design & Installation Guide and the approved design drawings.

Location: List locations on building of 200mm Supercrete™ Structural Floor Panel

Supercrete™ Structural Floor Panel - 250mm thick

Supercrete™ Structural Floor Panel - 250mm. 600mm wide x 250mm thick, with a bevelled rebate along one side and single groove along the other, double-cage steel mesh reinforced, lightweight Autoclaved Aerated Concrete (AAC) structural floor panels. 144.3kg/m² nominal weight at 10-12% moisture content. Maximum 5kPa uniform Live Load. Non-toxic and non-combustible. To the lengths specified on the drawings.

Installed as self-supporting structural floor panels with steel 'ring anchor' reinforced and grout filled longitudinal joints in accordance with the Supercrete™ Structural Floor Panel Design & Installation Guide and the approved design drawings.

Location: List locations on building of 250mm Supercrete™ Structural Floor Panel

Continue with any of the paragraphs below as appropriate to the detailing of the system on the drawings

**'Ring Anchor' Steel Reinforcing**

'Ring Anchor' Steel Reinforcing. D12 steel reinforcing rods to AS/NZS 4671. Installed and grouted into the rebate between Supercrete Structural Floor Panels and any bond/ring beam in accordance with the approved design drawings.

**Grout**

'Ring Anchor' Grout. Plant batched sand and cement grout mix, maximum 6mm aggregate size, minimum 15MPa strength after 28 days.

**Levelling Bed Mortar**

Supercoat™ Superbase Render Mortar. A cement-based, polymer modified adhesive. Used as a levelling bed mortar when the support structure seating for the Supercrete™ Structural Floor Panels is irregular or not level.

Use only when ambient temperatures are between 5°C - 25°C. Supplied as a bagged dry powder and mixed on site with clean, uncontaminated water in accordance with the manufacturer's requirements.

**1.3.3 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.

Co-ordinate with other trades to ensure that the Supercrete™ Structural Floor Panel System correctly allows for the installation of floor finishes, and for the installation of building components and fittings installed by others, and to install the structural floor panels as required.

**1.3.4 Workmanship**

Where required by the NZ Building Amendment Act 2012 it is the building contractor's responsibility to ensure that all restricted building work is carried out by a Licensed Building Practitioner.

Installation of the Supercrete™ Structural Floor Panel System shall be carried out by experienced installers, familiar with the specified products and installation techniques, to fully comply with all Superbuild International Ltd warranty requirements and in accordance with the manufacturer's requirements and as shown on the drawings.

All cutting, jointing, fixing, sealing and finishing techniques shall be exactly as recommended by the manufacturer. All work shall be such as to leave a neat, efficient, robust installation.

Carry out all necessary installation inspections to fully comply with the manufacturer's warranty requirements and as required by the Engineer.

**1.3.5 Delivery & Handling**

Store Supercrete™ Structural Floor Panels on the delivery pallets, clear of the ground on a flat, even and level surface - do not stack pallets more than two high - keep all materials and products dry and protected from damage and contamination at all times.

Store Supercoat™ compounds under cover out of direct sunlight, keep dry and protect from damage and moisture at all times.

Do not used damaged or faulty materials or products, or products that are beyond their designated shelf life. Reject panels that are structurally damaged and contact Superbuild International Ltd for replacement.

Handle all products and materials in accordance with the manufacturer's requirements and in a manner that prevents damage or deterioration to the material. Do not install Supercrete™ Structural Floor Panels in wet conditions.

Installers shall be familiar with and comply with the manufacturer's Material Safety Data Sheet precautions for use, and use appropriate safety gear when handling materials. Refer to the Supercrete™ Properties and Handling Design & Installation Guide for appropriate protective equipment & storage techniques.

Cut and drill Supercrete™ Soundfloor Panels outside in open air or in a well-ventilated space. Site-cut Supercrete™ Structural Floor Panels shall have any exposed steel reinforcing treated with a corrosion protection coating prior to installing the panel.

**1.3.6 Preparation**

Check that the support structure is level and in true alignment, and is completed to the layout and details shown on the drawings. Check the span distance between supporting members. Check that the width of all panel seating is correctly sized. Check that the seating/bearing surface of the support structure is clean and free of ridges, irregularities and defects - carry out any remedial work to the surface as necessary.

**1.3.7 Installation**

Construct the Supercrete™ Structural Floor Panel System in accordance with the Design & Installation Guide and as shown on the approved design drawings.

As shown on the drawings; confirm the layout and location of the floor panels and all panel seating requirements and details prior to installation.

Install the panels to the orientation and layout shown on the drawings parallel and tightly butt together and with the panels ends correctly seated and level on the support structure. Where shown on the drawings, seat panel ends on to a bed of levelling mortar - limit mortar laying to three panels at any-one-time.

Prop the panels at mid span with adjustable props spaced at 2000mm centres and with a continuous 200mm x 100mm timber support plate on edge against the panel soffit. Adjust the props until the floor is exactly level before grouting the 'Ring Anchors'

Lay the specified 'Ring Anchor' steel reinforcing into the panel joint rebate between the panels and tie off bars and starter legs to the ring/tie beam reinforcing. Support the reinforcing bars centrally in the rebate with bar chairs or concrete blocks and in a manner that prevents movement during grouting.

Ensure the rebates are clean and free of debris and that any required inspection is carried out by the Engineer prior to grouting the rebates and pouring the ring/tie beams.

Fill the rebates with the specified grout to form the 'Ring Anchor'. Compact the grout into the rebate as the grout is poured and finish the grout flush with the panel surface. Remove excess grout and spillage before setting as the grouting proceeds.

Grout fill any intermediate support vertical dowel pins flush with the panel surface. Where required, grout fill in-plane steel beam supports flush with the panel surface.

Form concrete ring/tie beams as per the approved design drawings.

**1.3.8 Completion**

Carry out a final inspection immediately after installation.

Check that the Supercrete™ Structural Floor Panel System has been installed correctly, and that all panel joints have been completed correctly.

Check panels and joints for damage and defective work - carry out repairs as necessary. Repair any chipped panel edge in accordance with Supercrete™ recommendations.

Leave this work complete and sound in accordance with Supercrete™ requirements.

Leave the work area and surrounding surfaces clean and free of grout spillage, rubbish and debris.

Remove all rubbish and excess material from the site.

Provide the Supercrete™ Structural Floor Panel Installer Producer Statement.