

3163RI RCS INTEGRA LIGHTWEIGHT CONCRETE FLOORING SYSTEM

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1 GENERAL

If you have pre-customised this work section using the "questions and answers" provided as part of the downloading process, it may be necessary to amend some clauses to suit the final project-specific version.

The section must still be checked and customised to suit the project being specified, by removing any other irrelevant details and adding project-specific details and selections.

This section relates to **RCS Integra Lightweight Concrete Flooring System** incorporating steel reinforced AAC concrete units.

Modify or extend the above description to suit the project being specified.

1.1 RELATED SECTIONS

Refer to the appropriate concrete section(s) for associated concrete work.

Refer to 6200 TILING section for general tiling

Refer to 6211 WALL TILING section for wall tiling

Refer to 6221 FLOOR TILING section for floor tiling

Refer to 6811 WATERPROOFING & ACOUSTIC UNDERLAY SYSTEM section for waterproofing

Include cross references to other sections where these contain related work.

1.2 ABBREVIATIONS AND DEFINITIONS

Refer to the general section 1232 INTERPRETATION & DEFINITIONS for abbreviations and definitions used throughout the specification.

The following definitions apply specifically to this section:

AAC	Autoclaved aerated concrete
MSDS	Material safety data sheets
LWC	Light Weight Concrete
RCS	Resene Construction Systems

Delete abbreviations or definitions that are not used

1.3 DOCUMENTS REFERRED TO

Documents referred to in this section are:

NZS 1170.5	Structural design actions - Earthquake actions - New Zealand
NZS 3604	Timber-framed buildings
AS 3566	Self-drilling screws for the building and construction industries
AS/NZS 1170	Structural design actions - Parts 0,1,2,3.
AS/NZS 1170.1	Structural design actions - Permanent, imposed and other actions
WorkSafe NZ	Guidelines for the provision of facilities and general safety in the construction industry
MPNZA	Health and Safety Programme
Health and Safety at Work Act 2015	

Documents listed above and cited in the clauses that follow are part of this specification. However, this specification takes precedence in the event of it being at variance with the cited document.

Delete from the DOCUMENTS clause any document not cited. List any additional cited documents.

RELATED DOCUMENTS:

Refer to the following related documents when preparing this section:

NZBC B1/AS1	<i>Structure</i>
NZBC B2/AS1	<i>Durability</i>
NZBC E2/AS3	<i>External Moisture</i>
NZBC E3/AS1	<i>Internal moisture</i>
NZS 3602	<i>Timber and wood-based products for use in building</i>
NZS 4229	<i>Concrete masonry buildings not requiring specific design</i>
CCANZ CP 01	<i>Code of Practice for weathertight concrete and concrete masonry construction</i>
BRANZ Technical Opinion	<i>FAR 4686-T0</i>

1.4 MANUFACTURER'S DOCUMENTS

Manufacturer's and supplier's documents relating to work in this section are:

- **Resene Construction Systems** Technical Manual
- **Resene Construction Systems** Trade Spec™
- **Resene Construction Systems** Project Guide
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Copies of the above literature are available from:

Company: **Resene Construction Systems**
Web: www.reseneconstruction.co.nz
Email: help@reseneconstruction.co.nz
Telephone: 0800 50 70 40

It is important to ensure that all personnel on site have access to accurate, up to date technical information on the many products, materials and equipment used on a project. In most cases individual products are not used in isolation, but form part of a building process. Also a particular manufacturer's and/or supplier's requirements for handling, storage, preparation, installation, finishing and protection of their product can vary from what might be considered the norm. Access to technical information can help overcome this potential problem.

Warranties

Use for listing all warranties relating to this section. Supplier and manufacturer warranties are those that are freely offered by the supplier or manufacturer, similarly installers and applicators. They are usually in their standard form and subject to their terms and conditions. Check the general section 1237 WARRANTIES for the date of commencement of warranties; which is normally Practical Completion of the contract, although not all suppliers, manufacture's, installers or applicators will agree to this. Refer to the chosen conditions of contract as it may also contain information on warranties.

1.5 WARRANTY - MANUFACTURER/SUPPLIER

Provide a material manufacturer/supplier warranty:

25 years: For materials by **Resene Construction Systems**

- Provide this warranty on the Resene Construction Systems standard form (if unavailable use the standard form in the general section 1237WA WARRANTY AGREEMENT)
- Commence the warranty from the date of Practical Completion of the contract works.

Refer to the general section 1237 WARRANTIES for additional requirements.

Modify or expand the clause to suit project or manufacturer/supplier requirements.

- *Modify the form to be used*
- *Commence the warranty from the date of purchase (check with the manufacturer/supplier)*

Requirements

1.6 QUALIFICATIONS

Resene Construction Systems INTEGRA Lightweight Concrete Flooring installers and builders to be experienced, competent workers, familiar with **Resene Construction Systems** installation techniques.

This clause includes generic text which should be expanded only if there are specific qualification requirements.

1.7 NO SUBSTITUTIONS

Substitutions are not permitted to any specified **Resene Construction Systems** INTEGRA Lightweight Concrete Flooring panel system or any associated components.

1.8 INFORMATION FOR OPERATION AND MAINTENANCE

Provide **Resene Construction Systems** Maintenance Guide on request or before Practical Completion of the contract for issuing to the building owner. Provide on-going maintenance instructions to meet the performance requirements of [NZBC B2/AS1](#).

A copy of the maintenance instructions may be required by the Building Consent Authority with the building consent application. The system is designed for a durability of 25 years.

1.9 HEALTH AND SAFETY

Refer to the requirements of the [Health and Safety at Work Act 2015](#) and [WorkSafe NZ: Guidelines for the provision of facilities and general safety in the construction industry](#).

If the elimination or isolation of potential hazards and risks is not possible then minimise hazards and risks in this work on site by using the proper equipment and techniques as required in the MPNZA Health and Safety Programme. Supply protective clothing and equipment as necessary. Inform employees and others on site of the hazards and risks, and put into place procedures for dealing with emergencies. Obtain from **Resene Construction Systems** the material safety data sheets (MSDS) for each product. Keep these sheets on site and comply with the required safety procedures.

Performance

Use these clauses and the EXECUTION clauses when specifying by performance.

Note that in using the next clause you are setting a standard of performance for the contractor to meet.

Specifiers should therefore consider adding some means of confirming (e.g. by testing or certification) that the performance criteria will be or have been met.

1.10 PERFORMANCE

Accept responsibility for the structural and acoustic performance of the INTEGRA Lightweight Concrete Flooring system installation.

Use this standard generic clause and if appropriate add special requirements.

1.11 DESIGN LOADS

Design the floors to **Resene Construction Systems** requirements and for the distributed and point loading conditions supplied, with consideration of all floor penetrations. Refer to SELECTIONS / drawings.

Use superimposed load for live loads of a permanent nature, such as floor finishes, partitions, ceilings, building services, etc.

1.12 FIRE RATING

Design the floors for the required fire rating.
Refer to SELECTIONS / drawings and fire engineer's report.

Consider including the fire engineers report where applicable.

1.13 ACOUSTIC RATING

NZBC requires an acoustic barrier between two tenancies to have a minimum STC rating of 55.
Design the floor for the required acoustic rating.
Refer to SELECTIONS and drawings for details.

For more information regarding the acoustic values of INTREGRA, refer to the report from Marshall Day Acoustics.

1.14 INSPECTIONS

Allow to inspect the whole of the work at each stage. Determine a programme for inspections including notification when each part and stage of the work is ready for inspection prior to the work commencing. Permit representatives of **Resene Construction Systems** to inspect the work in progress and to take samples of their products from site if requested. Refer to **Resene Construction Systems** Project Guide for inspection procedure.

Use this clause for parts of the work where;

*Special arrangements are required for notification for inspections.
These inspections may include 'Hold Points' or 'Notification Points'. Refer to 1232 INTERPRETATION & DEFINITIONS for complete definitions.*

Hold Point: Work may not proceed until the work in question has been inspected.

Notification Point: notify Contract Administrator, work may be observed or not, work may proceed.

or

the manufacturer/supplier is required to carry out inspections outside their normal activities and provide reports or other documents in support of the work carried out.

or

the Contractor is required to carry out or engage consultants to carry out inspections of parts of the work. It will typically be expected that the person carrying out the inspections will be required to provide producer statements in support of the work carried out.

2 PRODUCT

When selecting a particular proprietary system, modify the following PRODUCT and EXECUTION clauses accordingly.

Materials

- 2.1 FLOORING UNITS
RCS INTEGRA 75mm x 1800mm x 600mm steel reinforced AAC concrete units.
- Modify this clause to suit project requirements.
Some designers prefer to designate a particular system, but leave it open for the contractor to propose alternatives. If this approach is taken it will be necessary to specify the approval process to be followed.*
- 2.2 FIXINGS
RCS INTEGRA Galvanised hex-drive screws, 14g x 100mm /150mm (100mm for fixing panels generally, 150mm for fixing bottom plate floor perimeter)
- 2.3 PRIMER
Rockcote Galvo-Prime; brush applied water-borne galvanised iron primer or zinc-rich spray primer.
- 2.4 ADHESIVE
RCS PSL AAC adhesive for joining **Resene Construction Systems** INTEGRA Floor Panels. Ensure all narrow ends of the INTEGRA Floor Panels have AAC adhesive applied to them before butting in the adjoining panel.
- Accessories - not supplied by Resene Construction Systems**
- 2.5 WATERPROOFING MEMBRANE
Approved waterproofing membrane over the INTEGRA Lightweight Concrete Flooring in wet areas.
Refer to relevant WATERPROOFING section.
- 2.6 FLOOR LEVELLING COMPOUND
Approved floor levelling compound over the INTEGRA Lightweight Concrete Flooring. Refer to FLOOR FINISHING section.
- 3 EXECUTION**
- Conditions**
- 3.1 ROUTINE MATTERS
Refer to 1250 TEMPORARY WORKS & SERVICES for protection requirements.
Refer to 1270 CONSTRUCTION for requirements relating to defective or damaged work, removal of protection and cleaning.
- Use this standard generic clause and if appropriate add special requirements.*
- 3.2 MOISTURE CONTENT
Maximum moisture content of timber framing to [NZS 3602](#) Timber and wood-based product for use in building.
- 3.3 STORAGE
Take delivery of products dry and undamaged on pallets, and keep on pallet. Protect edges and corners from damage and covered to keep dry until fixed.

3.4 HANDLING

Avoid distortion and contact with potentially damaging surfaces. Carry panels vertically. Do not drag panels across each other, or across other materials. Protect edges, corners and surface finish from damage.

3.5 SUBSTRATE

Do not commence work until the substrate is of the standard required by the relevant manufacturer's technical literature for the specified finish; plumb, level and in true alignment. Maximum moisture content of timber framing to [NZS 3602](#) Timber and wood-based product for use in building.

Application

3.6 SUPPORT FRAMING

Ensure support framing is completed to **Resene Construction Systems** stated requirements.

3.7 SUPPORT EDGES AND JOINTS

Fully support short edges of panels.

3.8 FIXINGS

Minimum 50mm from a panel edge, leave heads slightly below the surface, 2x screws per panel, per joist. Fastening at 150mm centres on perimeter.

3.9 FIXING PANELS - TILE APPLICATIONS

Fix INTEGRA Lightweight Concrete Flooring panels to **Resene Construction Systems** requirements.

Lay panels in a staggered layout, long edge of panel at right-angles to support and with panels in square, true alignment and plane. Always lay panels across the floor joists. Apply tiles to screed or adhesive as per normal floor. Screed floors to maintain fall and/or levelling. Refer to tile adhesive manufacturer for primer suitable for AAC (porous materials) to alleviate suction. Refer to TILING section for tiling.

3.10 FIXING PANELS - CARPET APPLICATIONS

Fix INTEGRA Lightweight Concrete Flooring panels to **Resene Construction Systems** requirements.

Lay panels in a staggered layout, long edge of panel at right-angles to support and with panels in square, true alignment and plane. Always lay panels across the floor joists. Installation of carpet smooth edge prior to laying carpet requires the use of specifically selected nails (Annular Grooved) as well as an adhesive. Use appropriate primer with all adhesives.

3.11 FIXING PANELS - VINYL

Fix INTEGRA Lightweight Concrete Flooring panels to **Resene Construction Systems** requirements.

Lay panels in a staggered layout, long edge of panel at right-angles to support and with panels in square, true alignment and plane. Always lay panels across the floor joists. Floor levelling is generally required: Installed as per vinyl manufacturers' requirements.

3.12 FIXING PANELS - TIMBER FLOORS

Fix INTEGRA Lightweight Concrete Flooring panels to **Resene Construction Systems** requirements. Lay panels in a staggered layout, long edge of panel at right-angles to support and with panels in square, true alignment and plane. Always lay panels across the floor joists. All timber floors require a vapour barrier to be installed prior to the flooring being installed. Floor Levelling Compound also recommended to ensure the floor is flat.

- Batten fix - Anchor battens at the required centres using anchors suitable for AAC
- Floating Timber Floor - Underlay / backing installed as per normal for a concrete slab.

3.13 WATERPROOFING MEMBRANE - WET AREAS

Ensure all panel fixing is completed to **Resene Construction Systems** requirements. Refer to waterproofing section for waterproofing installation and manufacturer's requirements.

3.14 CUT PANELS

Ensure the length of any site-cut panel is supported on minimum of three joists.

3.15 FORMING HOLES

Any holes necessary to be accurately formed and cut to **Resene Construction Systems** requirements.

3.16 CONTROL JOINTS

Form control joints where floor dimensions exceed 6m in the long direction and where existing structural joints are located. Position joints symmetrical about the centre of the floor where possible. Form control joints where there are changes in wall direction and at doorways where the tiled surface is carried through into the next room. When laying tiles the joint location must coincide with the control joint in the underlay.

Place a 6-8mm diameter polyethylene backing rod in the bottom of the joint between the panels and fill the joint with a suitable flexible sealant. All square edges to be fully supported.

Completion

3.17 DEFECTIVE OR DAMAGED WORK

Repair damaged or marked elements. Replace damaged or marked elements where repair is not possible or will not be acceptable. Leave work to the standard required for following procedures.

Use this standard generic clause and add specific requirements if necessary.

3.18 CLEAN UP

Clean up surrounding areas following panel installation and casting of floor toppings.

3.19 PROTECT

Provide the following temporary protection of the finished work:

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Expand this clause if protection is required from, weather, water, dust, damage, etc. Refer to the general section 1270 CONSTRUCTION for removal of temporary protection as part of final clean. If special protection is required or protection is to be supplied by others, make reference in this clause to the general section 1250 TEMPORARY WORKS & SERVICES clause SPECIAL PROTECTION.

3.20 REMOVE

Remove debris, unused materials and elements from the site.

Use this standard generic clause and add specific requirements if necessary.

ESD note: Recycling is addressed in the general section 1256 WASTE MANAGEMENT, amend this clause if it is to apply to this section.

Completion & Commissioning

3.21 COMPLETION - TESTS & CERTIFICATION

Refer to 1270 CONSTRUCTION for general test and certification requirements at completion.

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Expand this clause to detail specific requirements for tests and certification required on completion of this section of work. For example acoustic tests, thermal testing, leak testing etc. Nominate the person that test results and / or certification is to be submitted to. Co-ordinate with the INSPECTIONS clause if required to link testing with a Hold Point or Notification Point. Delete this clause if there are no testing / certification requirements.

4 SELECTIONS

For further details on selections go to www.reseneconstruction.co.nz.

Substitutions are not permitted to the following **Resene Construction Systems** product, unless stated otherwise.

If substitutions are permitted modify the statement above, ensure the NO SUBSTITUTIONS clause from GENERAL is treated the same.

4.1 RCS INTEGRA LIGHTWEIGHT CONCRETE FLOORING SYSTEM

Manufacturer/distributor: **Resene Construction Systems**

System name: INTEGRA Lightweight Concrete Flooring System

Thickness: 75mm

Fixings: Galvanised hex drive screws 14g x 100mm/150mm (100mm for fixing panels generally, 150mm for fixing floor perimeter.)

Modify this clause to suit project requirements.

Some designers prefer to designate a particular system, but leave it open for the contractor to propose alternatives. If this approach is taken it will be necessary to specify the approval process to be followed.