

AlliedConcrete

READY Floor

Bringing concrete
to life.





The Smart Alternative

Ready Floor is easy to place, faster to build, and proven to work!

All this adds up to significant savings over traditional flooring systems or complicated designs. Ready Floor arrives on site pre-reinforced with steel fibres.

Where to use it

Ready Floor can be used on any lightly loaded ground slabs when building on 'good ground', including:

- House slabs
- Shed floors
- Small commercial buildings
- Car parks
- Warehouses

Benefits

Ready Floor has many benefits which all contribute to considerable savings, including:

- Faster build time
- Fewer bookings - fewer interruptions
- BRANZ appraised and CodeMarked - no consent hold up
- No need for traditional mesh, plus reduce or eliminate traditional reinforcing.
- Green product - recycled product, reduced carbon footprint

READYFloor

Ready Floor Applications

Ready Floor is certified for three applications on good ground; Foundation & floor slab as per 3604 design alternative, house/light commercial slab on grade with 'traditional' foundation and light commercial carpark/driveway

Foundation & floor slab

- See detail on page 12
- Supplementary perimeter bars recommended for additional perimeter protection
- No mesh, no starters

House/light commercial slab

- Slab only
- Build perimeter foundation as per 3604 figure 7.13(B) or 7.15(B) with standard reinforcing and starters
- Pour slab without mesh

Commercial carpark/driveway

- Consult load diagram for thickness
- Check subbase equals 300kpa (as per NZS3604 definition of good ground)

Savings

Easily save 20% or more when compared to traditional 3604 floor and foundation - that's thousands!!!

Savings include

- Less time spent on ordering, unloading, cutting, tying steel, mesh and chairs!
- One pour - no separate foundation and floor bookings
- Can be poured straight from the chute if access permits
- No internal boxing and pegs if foundation is Ready Floor
- Faster - improve productivity from existing resources.

A Green Product

Ready Floor uses steel fibres that consist of approximately 80% recycled material. Compared to standard mesh solutions, Ready Floor allows you to reduce your Co₂ emission and energy consumption by up to 12%.

Certification

CodeMark & BRANZ

Ready Floor is CodeMark-certified meaning building consent authorities will accept it as complying with the New Zealand Building Code (when used as specified in the CodeMark certificate).

You will still need to apply for building consent, however the CodeMark means no delays at council.

View the Allied Concrete Ready Floor Certificate of Conformity and BRANZ Appraisal online at alliedconcrete.co.nz.



Laying Ready Floor

Here is an example of laying a monolithic foundation and floor pour



1. Ground prep

Remove organic, dig footing to specification, compact hardfill.



2. Formwork

Box the perimeter with pegs and boxing or shuttering system.



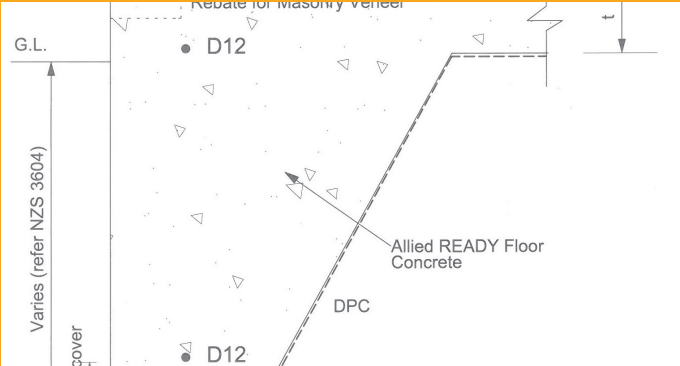
3. Plumbing

Organise plumber to place pipes- verticals can be secured with a stake, horizontals can be blind ended to boxing or protrude.



4. Trim hardfill & cover with DPM

Shape inside to approx 45-80 degrees as per NZS3604 fig 7.13(B) or 7.15(B). Sand blind to height. Cover with DPM (add insulation layer if underfloor is specified).



5. Add supplementary steel

Add supplementary perimeter bars as per specification. 75mm ground and 50mm outside cover.



6. Mix Concrete

We load the reinforcing steel directly into truck. Tested type, tested quantity, pumpable, high quality Allied Ready Floor.



7. Concrete Pour

Ensure your placer uses good practice (recommended for ALL concrete). Vibrate evenly and well, screed to height, bullfloat perpendicular to screed, etc.

Check Allied Weather advisory for conditions. See guidelines on next page.



8. Finishing

Finish to 'two off' high polish to avoid removing/ exposing fibres, cut as per specifications with soft-cut early entry saw or equivalent. Cure as per best practice.

Ready Floor Guidelines

Subbase/Subgrade

It is important that the support provided to a slab from the subgrade/sub base is as assumed in the design.

It is essential that the subgrade and any sub base always be prepared in accordance with the recommendations of a qualified geotechnical engineer or soils consultant in order to achieve the values for CBR or modulus of subgrade reaction used in the slab design.

The prepared subgrade/sub base should also extend past the edge of the formed slab and the finished levels selected such that water drains away from the slab edges.

For domestic or other slabs designed in accordance with NZS3604, the slab should be supported on ‘good ground’ (as defined in NZS3604) and prepared in accordance with this standard.

Placing

Good practice needs to be followed for any concrete placing if cracking is to be avoided and a durable ground slab is to be provided.

Particular attention should be paid to the following:

- Ensuring the concrete is vibrated and well compacted, placed, finished and cured to give a high quality surface finish that is not prone to dusting.
- Eliminate thickenings at slab joints and edges to reduce shrinkage restraint or alternatively select joint locations to accommodate them.
- Isolate internal shrinkage restraining elements such as columns, pedestals, etc. by using isolation joints or advantageously locating control joints.
- Install saw cuts as early as possible, ensuring the concrete has sufficient strength to avoid ravelling to the edges of the joints or pulling out of fibres and/or aggregate.
- Avoid early drying by applying evaporation retarders (aliphatic alcohol) and straight after finishing apply effective curing using water or membranes.

Finishing

When finishing Ready Floor the only real difference is timing. If you are going to achieve a relatively fibre free surface follow these steps:

- Screed off concrete to finished levels using normal screeding tool.
- Bull float to push down aggregates and fibres left at surface during screeding operation. An extra pass or two with the bull float is recommended with Ready Floor in order to get 2-3mm of paste at the surface of the concrete to cover the fibres and coarse aggregates. Vibrating screeds or bullfloats may also assist.
- Finish the edges of the placed concrete with a steel trowel and the internals with power floats or by hand where access is limited.
- Squeegeeing surface water from concrete prior to finishing may lead to increased incidence of fibre on the surface.

Please Note:

- The timing when stage three is started will determine the number of fibres at the surface of the concrete.
- Do not finish too early or too late to achieve a fibre free surface.
- Undertake saw cutting at the right time to avoid random cracking.

Saw Cutting

Where saw cuts are to be provided to control cracking the type of saw cutting to be used should vary with the location of the slab.

Indoors:

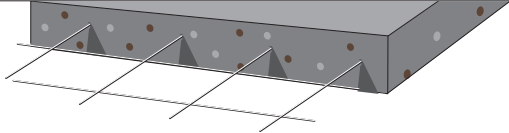
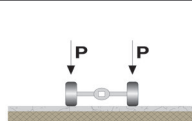
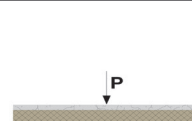
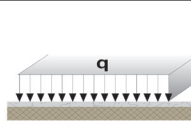
Concrete slabs cast indoors are typically not subjected to sudden and significant changes in the prevailing ambient conditions, so it is quite normal to wait between 24-48 hours before saw cutting when a conventional wet blade is undertaken. Cutting should always be undertaken prior to the commencement of any random cracking. The stronger the concrete is when cut, the less likely will be the occurrence of any ravelling to the edges of the joints or pulling out of fibres and/or aggregate.

Outdoors:

Concrete slabs cast outdoors can experience sudden changes in ambient conditions, potentially causing random cracking. This is most likely to occur when cold nights follow mild sunny days and the placed concrete has delayed setting times and a slow rate of strength gain. It is recommended that slabs cast outdoors are cut the same day using saws specifically designed for cutting “Green” concrete. For steel fibre reinforced concrete it is recommended that the “softer free cutting” blades such as the Series 2000 or Series 1000 blades with a new skid plate be used and that the concrete be left about one hour longer than normal before cutting.

Ready Floor Design

A Ready Floor slab replaces the following mesh sizes when carrying the maximum loads shown below:

					Maximum Loads		
Mesh size 150/150		Mesh size 300/300		Floor thickness (mm)			
5/5 A147	6/6 A208	7/7 A128	8/8 A168		ton/axle	ton/point	ton/m ²
✓		✓	✓	100	1.2	0.3	0.3
✓		✓	✓	120	3.0	1.0	1.5
✓	✓	✓	✓	130	3.5	1.5	2.0
✓	✓	✓	✓	140	4.0	2.0	2.5
✓	✓	✓	✓	150	6.0	3.0	3.0

Ready Floor mix codes

- 20MPA - 202PJRF
- 25MPA - 252PJRF
- 30MPA - 302PJRF

Design notes

- No allowance has been made for settlement and deformations of the ground

■ Calculation for loads acting in the middle of the slabs and on joints

■ Subsoil: $k > 0.03\text{N/mm}^3$ or 'good ground' as defined in NZS3604: 2011 including amendment 11 to B1/AS1.

■ Allowable slab thickness up to 200mm

■ Saw cut joints: max. 6m x 6m

■ Concrete: Ready Floor
- Supplementary steel should be located in the perimeter foundation and at re-entrant corners.

■ Does not include slabs constructed on expansive soils or sites prone to liquefaction.

■ Loads: wheel - point - pallet

■ It is recommended that external slabs are at least 120mm thick

■ Mesh sizes 150/150 = wire spacing; A = area of steel in mm^2/m .



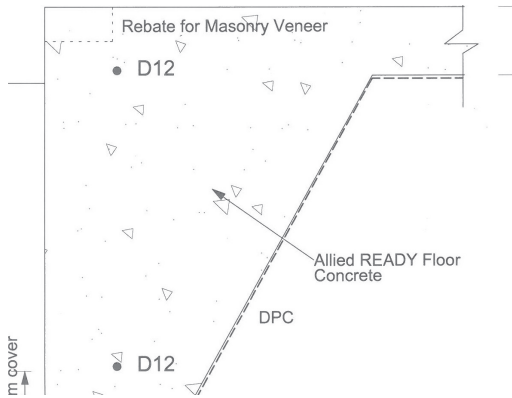
Foundation Detail

Allied Ready Floor concrete can be used as an alternative to the reinforcing detailed in NZS3604:2011 clause 7.5.2.3 combined foundation and edge detail, including Amendment 11 to B1/AS1.

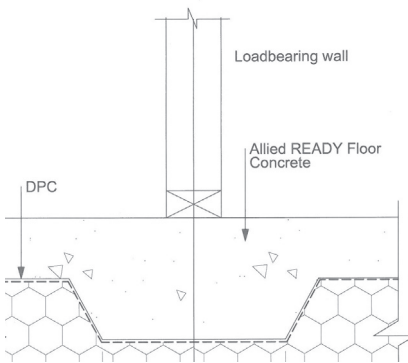
Foundation Details

Allied Ready Floor concrete is used in conjunction with two D12 reinforcing bars in edge foundations when poured integrally with the slab. At internal slab thickening under internal load bearing walls Allied Ready Floor concrete can be used to replace the conventional steel reinforcing used in NZS3604. The dimension of the foundations must be as described in NZS3604 clause 7.5.2.3 and for the slab thickening clause 7.5.11.

Notes



Slab Foundation Edge Detail
For 1 & 2 Storey in accordance with NZS3604



Thickening Under Loadbearing Wall
For 1 & 2 Storey in accordance with NZS3604

- Lower footing D12 should be positioned mid footing on a 75mm (minimum) bar chair. Upper foundation D12 can be suspended on wire 50mm (minimum) cover from side and top surface.
- Concrete minimum strength must meet the requirement of NZS3604 C1.4.5.2 fir residential floor construction.
- The slab and foundation should be poured monolithically, as shown above.
- It is recommended that the first saw cut is located a maximum of three meters out from the foundation edge and the first free joint is a maximum of 12 meters from this edge (when slab is over 24m in length).
- It is important to accommodate the additional stresses brought about by restraint when slabs are tied into the perimeter foundation. Edge restraint will almost certainly guarantee cracks developing unless the bay is divided at least in two in both directions. Early entry saws can be used on concrete that is only a couple of hours old. Leaving the cutting by two hours or more is risking uncontrolled cracking. Should this occur, subsequent cuts will be rendered ineffective by these predominant early age cracks.

Specification Sheet

Specification sheet and cost calculator

Use our online specification tool and cost calculator to work out your savings and generate a specification document that contains all the information you need to design and build your Ready Floor.

Call us to demonstrate or check it out online www.alliedconcrete.co.nz



FAQ'S

1. I already have my slab designed; can I change it to Ready Floor to make savings?

Yes. The customer can replace the crack controlling reinforcing using Ready Floor.

Use the Ready Floor calculator online to calculate savings and generate a specification document that contains the information you need to design and build your Ready Floor.

2. The Ready Floor mix is pumpable but pump operators sometimes don't like pumping fibres, why is this different?

It's likely the pump operator's previous experience has been on mix designed with a higher fibre content. The Ready Floor mix has been designed to be pumpable.

3. I thought one of the advantages of Ready Floor was that it didn't need to be pumped, why is that?

Because Ready Floor replaces crack control mesh it is possible for the truck to drive right onto the site to pour its Ready Floor straight out of the bowl because there is no mesh to run over.

This is another potential saving as you don't have to hire a pump. Don't forget to leave one end of boxing open!

4. Can fibres on the surface be a problem?

Yes however if the recommended placing and finishing process is followed it should prevent fibres from being visible on the surface.

5. With Ready Floor will there be any difference in curing time?

No.

6. If I am changing to a Ready Floor can I use the same MPa concrete or does this increase?

Yes you can use the same MPa concrete.

7. Is it a special fibre and how much do I use?

Ready Floor has been developed using a fibre known as Dramix Ready, Allied Concrete will know how much to use.

8. Can I switch to READY Floor when mesh has been specified?

Yes. You can replace the crack control mesh with Ready Floor.

9. How much can I save when using Ready Floor?

Our estimates are around 20% savings of total floor cost; go to www.alliedconcrete.co.nz and use our Ready Floor calculator to work out how much you could save.

10. If I wanted to polish my floor can I still use Ready Floor?

We would recommend you create samples or consider a polished specialty concrete.

11. I am having under floor heating installed in my slab; can I still do this with Ready Floor?

Yes.

12. Does the use of rapid hardeners which are sometimes used in concrete affect Ready Floor?

No more than standard concrete.

13. Can any builder construct a Ready Floor?

Yes, any qualified builder is able to construct a Ready Floor.

14. Is Ready Floor Certified?

Yes, Ready Floor is BRANZ appraised and CodeMark Certified.

Visit www.alliedconcrete.co.nz to download a copy of the CodeMark certificate of conformity.



The logo for Allied Concrete features the word "Allied" in a bold, white, sans-serif font, with a stylized orange and white graphic element to its left. Below "Allied" is the word "Concrete" in a larger, white, sans-serif font.

Allied Concrete

Consult your Allied Concrete representative for specialised information.

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www.alliedconcrete.co.nz