



PRODUCT CERTIFICATE

Allied Concrete READY



CERTIFICATE: CMNZ 30046
Version No: RevH

3	DESCRIPTION OF BUILDING METHOD OR PRODUCT
	Allied Concrete READY Floor is a concrete flooring system that contains integral reinforcement in the form of steel fibres.
4	INTENDED USE OF BUILDING METHOD OR PRODUCT
	Allied Concrete READY Floor is intended to use: <ul style="list-style-type: none"> for residential floor slabs with combined foundations for houses within the scope of NZS 3604:2011; or, for separately poured floor slabs with conventionally reinforced foundations for building within the scope of NZS3604:2011; or, for commercial and/or industrial concrete slabs-on-ground from 100 mm to 150 mm thick.
5	NEW ZEALAND BUILDING CODE PROVISIONS
	The Allied Concrete Ready Floors when designed, installed, used and maintained in accordance with the statements and conditions of this certificate will meet the following provisions of the NZBC: <p>Clause B1 STRUCTURE: Performance B1.3.1, B1.3.2 and B1.3.4 for the relevant physical conditions of B1.3.3 (a), (b), (f), (h), (m) and (q)</p> <p>Clause B2 DURABILITY: Performance B2.3.1 (a), B2.3.2 (a) – not less than 50 years</p> <p>Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1</p>

1	CERTIFICATE HOLDER DETAILS
	<p style="text-align: center;">Allied Concrete Ltd</p> <p>35 Inglewood Road, Invercargill 9810. info@alliedconcrete.co.nz Tel: .03 2171600 or 0800 4 255433 www.alliedconcrete.co.nz</p>

ORIGINAL ISSUE DATE	VERSION DATE	RECERTIFICATION
04/11/2019	9/12/2022	4/11/2025
8 SIGNATURE		
Herve Michoux, Global Mark Managing Director		

2	PRODUCT CERTIFICATION BODY
	<p style="text-align: center;">Global-Mark Pty Ltd 57 Willis Street, Wellington, 6011 customer.service@global-mark.co.nz +64 9 889 0622 www.global-mark.co.nz</p> <p style="text-align: center;">The complaints process for this certificate can be found here: https://www.global-mark.com.au/?s=complaint</p>



This certificate is issued by an independent certification body accredited by JAS-ANZ, the product certification body appointed by the Chief Executive of the Ministry of Business, Innovation and Employment under the Building Act 2004. This certificate may only be reproduced in its entirety. It is advised to check that this certificate is currently valid and not withdrawn or suspended by referring to the Register of Product Certificates on the Building Performance website <http://www.building.govt.nz>. The purpose of construction site audits is to confirm the practicability of installing the product; and to confirm the appropriateness and accuracy of installation instructions. In issuing this certificate, Global-Mark has relied on the independent expert and/or laboratory advice or reports. In placing the CodeMark mark on the product/system, the certificate holder makes a declaration of compliance with the certification standard(s) and confirms that the product is identical to the product certified herein.

CERTIFICATE V3

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6 CONDITIONS AND LIMITATIONS OF USE

1. Allied Concrete READY Floors have been certified for use in slabs within the following scope limitations:
 - a. for residential floor slabs with combined foundations for houses within the scope of NZS 3604:2011, built on good ground as defined by the Acceptable Solutions and Verification Methods for New Zealand Building Code Clause B1 Ministry of Business, Innovation and Employment, First Edition, July 2005 (Amendment 20, 29 November 2021),
 - b. for separately poured floor slabs with conventionally reinforced foundations for building within the scope of NZS3604:2011, built on good ground as defined by the Acceptable Solutions and Verification Methods for New Zealand Building Code Clause B1 Ministry of Business, Innovation and Employment, First Edition, July 2005 (Amendment 20, 29 November 2021) ,
 - c. as commercial and/or industrial concrete slabs-on-ground from 100 mm to 150 mm thick, on soil with a modulus of subgrade reaction of $k > 30$ kPa/mm.
2. Allied Concrete READY Floor is not suitable for soils that are expansive or prone to liquefaction or differential settlement. The soil that the slab is to be poured on must be “good ground” as defined by the Acceptable Solutions and Verification Methods for New Zealand Building Code Clause B1 Ministry of Business, Innovation and Employment, First Edition, July 2005 (Amendment 20, 29 November 2021). For specific engineering design the modulus of subgrade reaction, k , must be greater than 30 kPa/mm.
3. When Allied Concrete READY Floor is used for constructing concrete slab-on-ground floors for buildings within the scope of NZS 3604:2011 with the foundation integral with the floor slab,
 - a. slab and foundation must be placed as one continuous pour.
 - b. The dimensions of the floor and foundations must be as described in NZS 3604:2011, Figure 7.13 (B) or 7.15 (B), for the concrete slab-on-ground with combined foundations. There is no requirement for the steel mesh or R10 stirrups and only one D12 bar is required at each of the top and bottom of the footing. These bars must be installed in accordance with the Allied Concrete READY Floor Brochure 1116V1. The minimum depth of Allied Concrete READY Floor foundations below cleared ground level shall be 200 mm as specified by NZS 3604:2011, Paragraph 3.4.2. The inner face of the foundation shall slope up to the underside of the integral floor slab at an angle of approximately 45°, as shown in NZS 3604:2011, Figure 7.13 (B).
 - c. satisfactory cover to any supplementary steel incorporated in the concrete must be maintained.
 - d. the dimensions of slab thickenings under internal loadbearing walls must be as described in NZS 3604:2011, Section 7.5.11, except that there is no need for additional reinforcing.
4. When Allied Concrete READY Floor is used for constructing concrete slab-on-ground floors for buildings within the scope of NZS 3604:2011 with foundation poured separately,
 - a. they must be in accordance with NZS3604:2011, Figure 7.13 (B), 7.14 (B) or 7.15 (B), including the reinforcement steel and its coverage; and,
 - b. The slab may then be poured at a later date, and mesh not required.
 - c. the dimensions of slab thickenings under internal loadbearing walls must be as described in NZS 3604:2011, Section 7.5.11, except that there is no need for additional reinforcing.
5. For other concrete slab within the scope of this certification including building subject to Specific Engineering Design,
 - a. Table 1 gives the maximum loads for different slab thicknesses for Allied Concrete READY Floor.

Table 1: Maximum Loads

Floor Thickness (mm)	Maximum Loads		
	Tonne/axle	Tonne/point	Tonne/m2
100	1.2	0.3	0.3
120	3.0	1.0	1.5
130	3.5	1.5	2.0

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140	4.0	2.0	2.5
150	6.0	3.0	3.0

- a. Thickness up to 200mm may be used provided the allowable loads do not exceed what is shown in Table 1, or specific design is required.
- b. Allied Concrete READY Floor commercial / industrial ground floor slabs should be detailed following industry best practice, such as but not limited to:
 - i. isolating slabs from beams or internal columns;
 - ii. local reinforcing at re-entrant corners; and
 - iii. incorporating free movement joints with dowels, where necessary, to transfer slab loads across joints.
6. Shrinkage control joints must be made by saw cuts at maximum 6 metre centres. Saw cutting of Allied Concrete READY Floor should be carried out as soon as the concrete surface can endure the saw cutting process but no later than 24 hours after placement. It is recommended that shrinkage control joints extend from re-entrant corners. Where this is not practical supplementary steel in accordance with NZS 3604:2011, Clause 7.5.8.6.4 (b) must be used.
7. Regardless of whether the foundations are poured separately or are integral to the slab, the dimensions of slab thickenings under internal loadbearing walls must be as described in NZS 3604:2011, Section 7.5.11, except that there is no need for additional reinforcing.
8. Shrinkage control joints must be made by saw cuts at maximum 6 metre centres. Saw cutting of Allied Concrete READY Floor should be carried out as soon as the concrete surface can endure the saw cutting process but no later than 24 hours after placement. It is recommended that shrinkage control joints extend from re-entrant corners. Where this is not practical supplementary steel in accordance with NZS 3604:2011, Clause 7.5.8.6.4 (b) must be used.
9. The concrete for Allied Concrete READY Floor must be placed, finished and cured in accordance with the requirements of NZS 3109:1997 including Amendment 1 and 2.
10. The installer shall also comply with all relevant technical information relating to the products use, including information contained within the Allied Concrete READY Floor Brochure 1116V1 and the BRANZ Appraisal No. 810 (2017) Allied Concrete READY Floor dated 20 December 2017 and this certificate.
11. The designer shall provide a signed Declaration for submission with the building consent application that the use of this product in the proposed building work falls within the intended used of the system as described in this certificate and that all design conditions of this certificate have been met.

The installer shall supply a signed Declaration that the product has been installed in accordance with the installation conditions of this certificate, for consideration for issuing a Code Compliance Certificate (CCC).

7 HEALTH AND SAFETY INFORMATION

Standard industry safety practices and manufacturer safety requirement as detailed in the technical literature including applicable SDS must be observed at all time.

9 BASIS FOR CERTIFICATION

The certification decision is based on independent technical review(s) of test report(s), engineering opinion(s) and other documented evidence(s), factory audit(s) and site review(s)

Code Clause	Compliance pathway	Evidence
Clause B1 STRUCTURE:	Alternative solution	Items 1, 2 and 3
Clause B2 DURABILITY:	Alternative solution	Items 2 and 3

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Clause F2 HAZARDOUS BUILDING MATERIALS		Alternative solution – Expert judgement	Item 4
10 SUPPORTING DOCUMENTATION FOR CERTIFICATION			
Ref	Author	Title	Date and/or revision
1	Allied Concrete Ltd	Allied Concrete READY Floor Brochure	1116V1
2	BRANZ	BRANZ Appraisal No. 810 (2017) Allied Concrete READY Floor	20 December 2017
3 *	BRANZ	BRANZ Appraisals Codemark Certification – NZBC compliance document)	TP1826
4	Allied Concrete	Material Safety Data Sheet for Ready Mixed Concrete (plastic concrete, concrete slurry, concrete bleed water, wet concrete)	20 January 2020
* This document was provided commercial in confidence and is not publicly available.			

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11	SUPPORTING INFORMATION ABOUT DESCRIPTION (OPTIONAL)
<p>The steel fibres used as reinforcing for Allied Concrete READY Floor are Dramix® READY fibres manufactured by Bekaert. They are nominally 60 mm long with a diameter of 0.75 mm. Each end of each fibre has a hook. The steel is low carbon with a tensile strength of 1225 MPa. The fibres have a bright steel finish. The fibres are manufactured in accordance with EN14889-1:2006 and the dosage used exceeds the minimum declared value in accordance with the CE Certifications BC1-251-0024-0051-001 and BC1-251-0024-0051-002.</p> <p>The steel fibre reinforced concrete used for Allied Concrete READY Floor is batched at plants that are certified under the New Zealand Ready Mixed Concrete Association Plant Audit Scheme. The concrete grade for use with Allied Concrete READY Floor is 20 MPa, 25 MPa or 30 MPa, manufactured in accordance with NZS 3104:2003 including Amendment 1 and 2. Where reinforcing steel is required, D300E12 bars in accordance with AS/NZS 4671:2001 including Amendment 1 are to be used.</p>	
12	SUPPORTING INFORMATION ABOUT INTENDED USE (OPTIONAL)
<p>Allied Concrete READY Floor is expected to have a serviceable life equal to that of standard concrete floors and slabs. Degradation of exposed fibres at exterior concrete surfaces will occur, and these degraded exposed fibres will be removed by weathering. This degradation is non-structural and will not affect compliance with B2.3.1(a) for these concrete structures.</p> <p>There is no minimum cover requirement to the steel fibres in Allied Concrete READY Floor. However corrosion products at the surface may be created as a result of the steel fibres corroding. Allied Concrete READY Floor may not be suitable where decorative, exposed aggregate or architecturally sensitive concrete is specified.</p>	
13	SUPPORTING INFORMATION ABOUT CONDITIONS AND LIMITATIONS OF USE (OPTIONAL)
<p>Nil</p>	

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