

CUPOLEX ecodome Structural Dome Slab Concrete Floor System - CodeMark

Product Technical Statement: 111879



Concrete over an interlocking dome system to create a floating or structured concrete slab

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Level of assurance needed to demonstrate NZ Building Code Compliance

Supporting documentation should include self-assessment and technical information by manufacturer



CUPOLEX confirms that this minimum level of assurance has been met or exceeded by the following:

CodeMark

[CMNZ10026](#)

BRANZ Appraisal

[1221](#)



The following information has been provided by CUPOLEX demonstrating how this product complies with the [Building Product Information Requirements](#).

Technical Statement

Product Class

CLASS 1

Product Description

Cupolex® Ecodome™ is a CodeMark / Branz Appraised patented structural dome concrete floor system made in New Zealand from 100% recycled plastic. Each element easily interconnects to create a self-supporting structure which acts as permanent form-work, replacing hard-fill or polystyrene.

The cost-effective, eco-friendly concrete slab solution allows multi-level foundations to accommodate underfloor services. A Cupolex slab offers excellent thermal properties see R-value calculator <https://calculator.ecodome.co.nz/> and is a zero waste flooring solution.

Environmental

- Manufactured in New Zealand from 100% recycled materials.
- No waste, offcuts or beads polluting waterways.
- Can be recycled at the end of its own life.
- Reduced transportation in comparison to alternatives

Superior design

- Patented Italian design provides optimised reinforcing in your concrete slab.
- Provides an absolute barrier, mitigating rising damp.
- No footings.
- Can be ventilated.
- Warmer due to the trapped air
- Fast to install
- Easy to transport

Scope of use

CUPOLEX® is a concrete floor system intended for use within slab-on-ground floors for either timber-framed buildings within the scope limitations of NZS 3604, or steel-framed buildings within the scope of limitations of NASH Standard Part 2, or other similar light weight construction where floor slabs are subject to Specific Engineering Design.

CUPOLEX® can be designed using design details from the Technical Literature when built on: 'good ground' and 'TC1' type ground within the 'Canterbury earthquake region', as defined by the NZBC Acceptable Solutions and Verification Methods for NZBC Clause B1 Structure; or, 'ground with an ultimate bearing capacity of minimum 200 kPa pressure (as defined in the Technical Literature) and with all other classification details of 'good ground' or 'TC1' type ground within the 'Canterbury earthquake region'.

When built on 'TC2' type ground within the 'Canterbury earthquake region', or moderately to highly expansive soils, CUPOLEX® is subject to Specific Engineering Design, as well as to verification and assessment by a Chartered Professional Engineer.

New Zealand Building Code (NZBC)

The product will, if employed in accordance with the supplier's installation and maintenance requirements, assist with meeting the following provisions of the building code:

- **Clause B1 Structure:** Performance B1.3.1, B1.3.2, B1.3.4



masterspec partner

Company Contact Details



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Refer to CodeMark.

Acceptable Solutions and Verification Methods for New Zealand Building Code Clause B1 Structure, First edition (Amendment 20), 29 November 2021.

Acceptable Solutions and Verification Methods for New Zealand Building Code Clause H1 Energy Efficiency, Fourth edition (Amendment 4), 28 November 2019.

- **Clause B2 Durability:** Performance B2.3.1, B2.3.1(a)

BRANZ Durability Opinion TP13275-001, issue date 12 May 2021. The CUPOLEX® ecodome™ System was assessed to meet the relevant NZBC durability requirement.

The CUPOLEX® ecodome™ System, when designed, installed and maintained in accordance with the details given in the Reference Document, meet the requirements of NZBC Clause B2.3.1 (a), not less than 50 years and B2.3.2.

Refer to the CodeMark document.

- **Clause E2 External moisture:** Performance E2.3.3

The CUPOLEX® ecodome™ System, when installed and maintained in accordance with the details given in the Reference Document, meet the requirements of NZBC Clause E2.3.3.

Refer to the Cupolex Technical manual and installation instructions.

- **Clause F2 Hazardous building materials:** Performance F2.3.1

Refer to Cupolex.

- **Clause H1 Energy efficiency :** Performance H1.3.1, H1.3.2E

H1 Energy Efficiency, Acceptable Solution H1/AS1, Energy efficiency for all housing, and buildings up to 300 m2, Fifth edition, 29 November 2021.

H1 Energy Efficiency, Verification Method H1/VM1, Energy efficiency for all housing, and buildings up to 300 m2, Fifth edition, 29 November 2021.

H1 Energy Efficiency, Acceptable Solution H1/AS2, Energy efficiency for buildings greater than 300 m2, First edition, 29 November 2021.

H1 Energy Efficiency, Verification Method H1/VM2, Energy efficiency for buildings greater than 300 m2, First edition, 29 November 2021.

Notes

Cupolex Ecodome has a CodeMark and Branz compliance path.

Compliance with H1 Energy Efficiency is dependent on the CUPOLEX® ecodome™ System and project-specific details (including supplementary insulation where required) complying with:

NZBC Acceptable Solution H1/AS1 Fifth Edition and Verification Method H1/VM1 5th Edition for all housing, and buildings up to 300 m2; or,

NZBC Acceptable Solution H1/AS2, First Edition and H1/VM2, First Edition for buildings greater than 300 m2; or,

for building consent applications submitted before 3 November 2022, NZBC Acceptable Solution H1/AS1 Fourth Edition, Amendment 4 for all buildings within the scope of this certification.

Evidence

The product meets the requirements set out in the following documents, or relevant parts of cited standards within the documents:

Refer to the CodeMark document.

B1 STRUCTURE The CUPOLEX® ecodome™ System, when designed and constructed in accordance with the Reference Document and specifically designed by a Chartered Professional Engineer (where applicable), meet the requirements of NZBC Clause B1 as listed above.

B2 DURABILITY The CUPOLEX® ecodome™ System, when designed, installed and maintained in accordance with the details given in the Reference Document, meet the requirements of NZBC Clause B2.3.1 (a), not less than 50 years and B2.3.2.

E2 EXTERNAL MOISTURE The CUPOLEX® ecodome™ System, when installed and maintained in accordance with the details given in the Reference Document, meet the requirements of NZBC Clause E2.3.3.

H1 ENERGY EFFICIENCY The CUPOLEX® ecodome™ System is considered a slab-on-grade for use with the tables in the NZBC Acceptable Solutions or the Verification Method to ascertain the relevant R-value for a given foundation design and its contribution to the buildings energy efficiency.

Supporting Evidence

The product has and can make available the following additional evidence to support the above statements:



CodeMark
[CMNZ10026](#)

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Use in Service History

Designed and installed in NZ projects for over 10 years.

Product Criteria

Design requirements

Refer to Codemark statement.

The system design is dependent on the underlying ground conditions and soil bearing capacity which shall be assessed prior to the design of the system.

Installation requirements

Cupolex Solutions Ltd trained and approved installers are responsible for the installation of the CUPOLEX® ecodome™ System. Installation manual available on website.

Maintenance requirements

Conventional maintenance procedures typical of concrete slabs may be used for slabs constructed using the CUPOLEX® ecodome™ System.

Warrantees

The CUPOLEX® ecodome™ System is expected to have a serviceable life equal to that of standard concrete floors and slabs. Durability in accordance with CodeMark statement is 50 years.

Company Product Information

Environmental

Refer to website.

Videos

[Cupolex Ecodome](#)

Building Product Information Requirements

Manufacturer

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Cupolex Solutions LTD

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Company Website:

www.cupolex.co.nz

Contact Number/s:

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Product Identifier

CUPOLEX 200MM, 260MM AND 350MM PLASTIC DOME SYSTEM FOR CONCRETE FLOORS

Warnings

This product has no warnings associated with it.



Date last validated: **04 December 2023**



Date last updated: **04 December 2023**

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