

CODE OF PRACTICE

for

Pre-manufactured
Dwellings - including
Mobile Homes

July 2021

Draft 0.2

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0.1	December 2019	First draft for comment by the Advisory group
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0. Contents

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1. **Preliminary**

1.0 Representation

- This Code of Practice was prepared by an advisory group representing the NZ building industry and building owners, comprising the following entities:
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 - Mr Alan Light
 - Building Enclosure Group
 - Mr Chris Haughey, of NZ Foam Ltd
 - Mr Ian Holyoake
 - Mr Mike Winton
 - Representatives from BCAs
 - Mr Colin Prouse of BEAL Professional Services Ltd.

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The citation is to read: “Reproduced from the Code of Practice for Pre-manufactured Dwellings - including Mobile Homes”

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1.2 Comments and Notification of Errors or Omissions

Comment on information contained in this Code of Practice is welcome. Please send all comments to: bps@beal.co.nz

1.3 Document History

This ‘Code of Practice for Pre-manufactured Dwellings - including Mobile Homes’, was first drafted in October 2019.

The Advisory Group will review and update the information contained in this Code of Practice when and as required. Refer to the BEAL website (www.beal.co.nz) for the most recent updates of information contained within this Code of Practice.

1.4 Disclaimer

Although the information contained in this Code of Practice has been obtained

from sources believed to be reliable, BEAL Professional Services Ltd. makes no warranties or representations of any kind (expressed or implied) with regard to the accuracy, adequacy, currency or completeness of the information, or that the information is suitable for any specific or intended use.

Compliance with this Code of Practice does not imply or guarantee immunity from breach of any statutory requirements, or the New Zealand Building Code.

This Code of Practice does not set out to restrict the use of any materials, system, or application method. The final responsibility for the correct selection, design and specification rests with the building owner and any appointed agents together with satisfactory execution by the appointed tradespeople.

1.5 Instructions to the BCA or Territorial Authority

While this Code of Practice is in part, the result of case histories, trade experience and or testing, the decision to use a particular product or system or method is the responsibility of the building owner.

Notwithstanding Section 2 of Part 1 of Schedule 1 of the Act, each Building Consent Authority (BCA) or Territorial Authority is responsible for assessing, on a case-by-case basis, the quality of information provided by the building owner in order to be “satisfied on reasonable grounds” that the relevant requirements of the Building Act will be met.

This document is intended as reliable guidance and is not specific to any particular project. While the writers have taken care in preparing this document, it cannot be relied upon alone as establishing compliance with the Building Act. Any application made for a Building Consent covering over-cladding work should be accompanied by documentation recommended in this Code of Practice.

1.6 Related Documents and Standards

The following documents may be useful guides in meeting the purpose of this Code of Practice. Users should ensure that they use the latest versions of relevant documents, including amendments, if any. New Zealand and joint Australian/New Zealand Standards, can be viewed on the Standards New Zealand website at www.standards.co.nz.

1.7 New Zealand Standards

- NZS 3602:2003 Timber and wood-based products for use in building
- NZS 3603:1993 Timber structures standard
- NZS 3604:2011 Timber framed buildings
- NZS 3640:2003 Chemical preservation of round and sawn timber
- NZS 4203:1992 Vols 1 and 2 General structural design and design loadings for buildings

1.8 Joint Australian/New Zealand Standards

- AS/NZS 1170.2:2002 Structural design actions – Wind actions
- AS/NZS 1604.3:2004 Specification for preservative treatment – Plywood
AS/NZS 2269:2004 Plywood – Structural
- AS/NZS ISO 9001:2015 Quality management systems – Requirements

1.9 Australian Standards

- AS 4055:1992 Wind loads for housing for other constructions

1.10 International Standards

- To be added as appropriate by the advisory group. Suggestions welcome.

1.11 Key Documents

- New Zealand Building Code, refer www.building.govt.nz

1.12 New Zealand Legislation

Building Act 2004

Building Regulations 1992 including the Building Code

1.13 Useful Websites

- American Society for Testing and Materials – www.astm.org
- Building Research – www.buildingresearch.org.nz
- British Standards Institute – www.bsi.co.uk
- European Committee for Standardization – www.cenorm.be
- European Union of Agrément. Also known as the European Union for Technical Approvals – www.ueatc.com
- International Union of Laboratories and Experts in Construction Materials, Systems and Structures – www.rilem.org
- Membrane Group NZ Inc. – www.membrane.org.nz
- Roofing Association of New Zealand – www.roofingassn.org.nz
- Standards Australia – www.standards.org.au
- Standards New Zealand – www.standards.co.nz

2. **Preamble:**

In principle, *homeowners* of a new home or 'mobile home' that has been *manufactured off-site*, want assurance that it has been built to be safe, healthy and durable, and verified by way of third-party certification.

At the same time, local Councils need to know that a dwelling, whether mobile or otherwise, that has been built off-site, has been built to the *appropriate standard*. For dwellings attached to the ground, that will be the requirements of the Building Code. For mobile homes, that will be the requirements described in this Code of Practice.

Building work that is undertaken on a site, needs an approved building consent, (unless exempted under schedule 1). Where the building work is carried out off-site, an alternative conformance pathway is required. This Code of Practice provides that pathway and assurance, for either dwellings attached to the ground or those that are mobile.

3. **The Off-site Assurance Process:**

The key parts to providing assurance for off-site manufacturing of dwellings includes:

- A "Manufactured Off-Site Assessment Certificate" (MOSAS) (document) that demonstrates that the design, selection of materials, construction and future performance of the pre-manufactured dwelling or mobile home, is in accordance with the relevant provisions of the Building Code or this Code of Practice, which has been verified by an approved impartial third party, together with
- Records showing who supervised the construction work, including what training or qualification that person received,
- Use of a written Manufacturing Quality Plan, and
- Records verifying that the MOSAS has been complied with, and
- Provision of a 'Certificate of Conformance' for each completed dwelling. This certificate states that the construction has been completed in accordance with the approved technical specification and quality processes that was approved as part of the MOSAS.
- The MOSAS document shall ideally be available from a cloud-based Register to allow ready access by the relevant BCA and public.
- A copy of the Certificate of Conformance shall be provided to the owner by the manufacturer. Such certificate may be incorporated into an RFID tag, attached to the dwelling, to provide ready access.

4. **Scope and Limitations**

4.0 Scope of application

- 4.1 This Code of Practice is intended to ensure all off-site manufactured building and construction work complies with the relevant the relevant provisions of the New Zealand Building Code, or this Code of Practice.

4.2 Limitations

This Code of Practice applies to dwellings attached to the ground that:

- a) have been constructed above ground, with a (seismic) locality factor (Z) of up to 0.42 (Upper Hutt), in a temperate climate, with winds up to and including 55m/sec (Extra high);
- b) are no greater than three stories in height as per NZS3604; and
- c) the new cladding system is to be installed in accordance with the approved technical and quality plan literature by those trained and approved by the manufacturer
- d) the approval of any variation of planned work covered by this Code of Practice shall be by a person suitably qualified as described in Section 8.

This Code of Practice also applies to dwellings that are mobile, being on wheels or temporary supports.

[This Code of Practice recognises the option for a Territorial Authority to exercise its powers under Section 2 of Part 1 of Schedule 1 of the Act by providing a reliable process and appropriate requirements for information to be made available.]

5. **Definitions**

5.0 In this Code of Practice, the following definitions are applicable:

- **Code of Practice** (COP) means a set of written rules which explains how people working in a particular profession should behave.
- **dwelling** may comprise more than one module attached to each other that results in the finished product.

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6. **Framework of Building Act and Regulations**

6.0 For dwellings fixed to the ground

The Building Act 2004, upon which all building law is derived, states that all building work must comply with the requirements of the Building Code.

Exemption 1 and 2 of Part 1 of Schedule 1 of the Act sets out when an application for a Building Consent is not required. This includes general repair, maintenance and replacement work.

Where an over-cladding product is deemed to be “comparable” in nature, then an exemption is allowed.¹

Since the over-cladding cannot degrade compliance of the existing building, the new cladding system’s technical information must describe how this is achieved.

Where the over-cladding product is not deemed to be comparable in nature, then the Territorial Authority has discretion under Section 2 of Part 1 of Schedule 1 of the Act to allow for an exemption where it considers that—

- (a) the completed building work is likely to comply with the building code; or
- (b) if the completed building work does not comply with the building code, it is unlikely to endanger people or any building, whether on the same land or on other property.

The Building Act makes it the responsibility of the person who submits information for a building consent, to demonstrate compliance with the relevant provisions of the Building Code.

The Building Act provides three pathways to demonstrate compliance:

- a) by having a product or element that in all respects meets the requirements of an “Acceptable Solution” published by the Government, or,
- b) having a product or element that relies on a “verification method”, published by the Government, or,
- c) use of “an alternative solution”, such as a published Code of Practice, that can be used to demonstrate that the completed building work *is likely to comply with the building code*.

6.2 For dwellings not fixed to the ground

In the case of mobile homes, the aim is to provide assurance that the ‘mobile home’ has been built to be safe, healthy and durable, by way of approved third-party certification using this Code of Practice. The performance criteria for a mobile home is described in Appendix 2.

7. Purpose

7.0 General

The purpose of this Code of Practice is to provide guidance for persons wishing to manufacture dwellings off-site. They may be either dwellings attached to the ground or those that are mobile.

7.1 Compliance

The guidance provided in this Code of Practice is intended to ensure all building and construction work complies with the relevant the relevant provisions of the New Zealand Building Code, or this Code of Practice.

Typical Performance Clauses are likely to include:

- B1 – Structure
- B2 – Durability
- E2 – External Moisture
- E3 – Internal Moisture
- F2 – (Non) Hazardous Materials
- H1 – Energy Efficiency
- G1 – Personal Hygiene
- G2 – Laundry
- G3 – Food Preparation
- G4 – Ventilation
- G5 – Interior Environment
- G6 – Air-borne & Impact Sound
- G7 – Natural Light
- G8 – Artificial Light
- G9 – Electricity
- G10 – Piped Services
- G11 – Gas as an energy source
- G12 – Water Supplies
- G13 – Foul water.

7.2 Evidence of Conformance for mobile homes

This Code of Practice is intended to ensure all mobile homes have been built to be **safe, healthy and durable**. The means for demonstrating this are described in detail in Appendix 2.

8. **Owner and Management Obligations**

8.0 General

It is the manufacturer's responsibility to ensure all building work complies with the relevant performance clauses of the New Zealand Building Code or this Code of Practice.

8.1 Use of this Code of Practice

Where an off-site manufacturer uses this Code of Practice to demonstrate compliance, it is essential that they have their own copy for reference.

The off-site manufacturer shall ensure that all persons employed for the design of off-site manufactured dwellings, have their own copy for reference purposes.

Every off-site manufacturer shall also ensure that those employed to supervise the off-site manufacture of dwellings, shall also have copies of all relevant product information.

The supervisor shall be a suitably trained and approved person, who shall also complete all checklists and keep records as required in the manufacturer or supplier's quality plan.

All such checklists and records shall be supplied to the owner who shall ensure their safe storage for future use.

8.2 Audits

The off-site manufacturer shall allow for the random audit of the over-cladding project by a representative of the owner of the Code of Practice and shall bear the reasonable costs related to the audit.

6.3 Confidentiality

Every off-site manufacturer shall ensure all relevant information concerning the design, selection of materials, development of construction methods and records of construction, is kept confidential between the relevant parties but shall be made available for any reason to the owner of the Code of Practice. Such disclosure will be subject to a separate confidentiality agreement.

9. **Technical Requirements**

9.0 General

In order to ensure dwellings have been built to be safe, healthy and durable, a Manufactured Off-Site Assessment Certificate” (MOSAS) document is required to be written up. Such a plan may be prepared by the manufacturer, the supplier, a designer or other suitably experienced person.

Appendix 3 illustrates the key parts of such a plan.

A MOSAS shall record all applicable performances that the dwelling has been designed to meet, including technical details and assembly/construction drawings that are accurate and easy to understand.

A MOSAS document needs a version number and expiry date to avoid use of an older version.

A MOSAS needs to be written in conformance with the requirements of this Code of Practice. These requirements are set out in Appendix 3.

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10. **Training and Supervision Requirements**

10.0 General

In order to ensure correct installation of the over-cladding product, use of competent trade persons and a trained and or competent supervisor is essential.

As described under S5.2, the supplier or manufacturer of a cladding system shall provide:

- a) training and or competence requirements for persons installing the new cladding, with records;
- b) a quality plan that includes checklists and records of completed work to be kept;
- c) any site-specific drawings and details used to ensure the correct installation of the product;
- d) a means of recording any deviations to the agreed plans or specifications during progress of the work.

Each of these requires the appropriate level of understanding and experience by a supervisor before commencing the project work.

It is the responsibility of the owner to ensure the supervisor is trained and or competent to oversee the over-cladding work. Records of such training and or approval should be kept by the owner.

Approval of any variation of planned work covered by this Code of Practice shall be by a person approved by the supplier or manufacturer.

10.1 Supervision

The owner shall ensure that the installation work, including all preparation and design work, is overseen by an appropriately qualified person. Typically, such a person(s) will have been trained and or approved by the supplier or manufacturer of the selected new cladding system.

11. Quality Requirements

11.0 General

An essential tool to be used with this Code of Practice for over-cladding work, is the off-site manufacturer's quality plan.

Typically, such a quality plan document will include –

- Name of the product (system)
- Date and version number
- Name of the manufacturer or their agent (supplier)
- Contact details
- Name of the person responsible for the implementation of the quality plan
- Specifications of the product and or key components
- Reference to any technical manual (with version number) – which shall include a description of how the new cladding system does not adversely affect compliance of the building
- Requirements for identification, such as batch numbers or the like
- List of key risks, starting with the ordering process and ending with a check on the completed installation
- Training requirements of installers, if needed
- Training and competence requirements of the Supervisor
- Checklists to be completed
- Records such as photos and the like to be recorded, before, during and on completion of the work
- Who is responsible when there is a problem with the quality of the product or installation
- Record of complaints
- Reference to third-party product certification or the like².

Where the existence of an appropriate technical / installation manual and or a quality plan is missing or unclear, the owner shall write to the supplier or manufacturer insisting on one being provided, before completing the project planning stage.

12. **Records of Work**

12.0 General

As described above, the keeping of essential records is a requirement of this Code of Practice used by persons wishing to install a new cladding system over an existing one.

The manufacturer or supplier's quality plan needs to describe all details and instances (key risks) where records of work before, during and on completion, has been undertaken.

While photos and the like may be recorded on tablets and smart phones, these records need to be backed-up and or transferred on an agreed frequency to ensure integrity of the record-keeping process.

Typically, it is the responsibility of the site supervisor to collect and store such records. However, the supervisor may make arrangements for some records to be collected by others and transferred on an agreed frequency to a safe storage.

The supervisor needs to have a plan how these records are to be transferred to a safe storage, including to the owner, so that in the event of an unexpected event, the required records are collected and stored safely.

Note: Some cloud based mobile device QA apps may be useful for this purpose. These should be checked for reliability before being relied upon.

¹ Note that installation of a new over-cladding system, using this Code of Practice, is evidence for satisfying the durability requirement of the Building Code.

² Note that reliance on third-party certification or the like, may include certificate-holder obligations, which the owner should be aware of, before committing to the use of an over-cladding product.