

STUDY REPORT

SR 331 (2015)

Physical characteristics of new non-residential buildings 2014

MD Curtis



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Preface

This is the first annual report providing the results of the BRANZ Non-Residential Survey. BRANZ surveys builders and designers of non-residential buildings on the physical characteristics of the building. The purpose is to obtain data on non-residential buildings that is not available from official sources. This includes what type of materials are used. The data is useful for studies in the fields of sustainability, energy efficiency, durability and engineering.

Acknowledgments

This work was funded by the Building Research Levy. We would like to thank all of the builders and designers who filled in the survey form and returned it to BRANZ.

Note

This report is intended for building material manufacturers, retailers/wholesalers, builders, designers, researchers and Government officials.

Physical characteristics of new non-residential buildings

BRANZ Study Report SR 331

MD Curtis

Abstract

Official data on the characteristics of non-residential buildings is limited. Building consents data held by Statistics New Zealand gives numbers by building type, value and floor area, aggregated into territorial authorities. However, there is no data on materials used.

BRANZ began surveying builders and designers in 1998 to obtain data on materials used. We have since compiled a database of approximately 400 non-residential buildings per year containing information on the materials used by building component.

This report contains the results of these surveys on the materials used in new non-residential buildings. The aim is to provide information useful to building material manufacturers, retailers/wholesalers, builders, designers, researchers and Government officials.

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1. INTRODUCTION

BRANZ surveys about 1,600 non-residential buildings per year in the BRANZ Non-Residential Survey. It collects a variety of data on materials used in new and altered residential buildings.

The survey is a postal survey to the builder or designer identified on the building consent application form and the questions relate to each individual consent. Generally, 400 returns are received each year. An incentive is offered (a lotto ticket, book voucher, or reduced price on BRANZ publications) for the return of each survey form.

The consent information is obtained from the What's-On¹ building consent data. BRANZ uses this to determine a sample of non-residential buildings for each period from 31 territorial authorities.

The 31 territorial authorities surveyed are:

Auckland	Christchurch	Dunedin	Franklin
Far North	Gisborne	Hutt City	Hamilton
Invercargill	Kapiti	Manukau	Marlborough
Napier	New Plymouth	North Shore	Porirua
Palmerston North	Queenstown	Rodney	Southland
Tauranga	Thames-Coromandel	Tasman	Waikato
Waipa	Wellington	Western Bay of Plenty	Whangarei
Waitakere			

The survey form is constantly evolving to include new questions as required. However, it is important for BRANZ to keep the survey form as simple, concise and clear as possible. Therefore, BRANZ keeps the survey form to a single page.

BRANZ weights the responses by the share of building activity for each building type in the calculation of the market share. This prevents some building types (such as farm buildings) from having a disproportionate share of the total market share should BRANZ receive a larger number of survey returns of one building type.

Using the data collected, representative estimates of the incidence and proportions of many different materials can be made. The components analysed are:

- Roof cladding
- Wall cladding
- Main structure
- Partition wall framing
- Wall infill framing
- Wall insulation
- Ceiling insulation
- Floor insulation

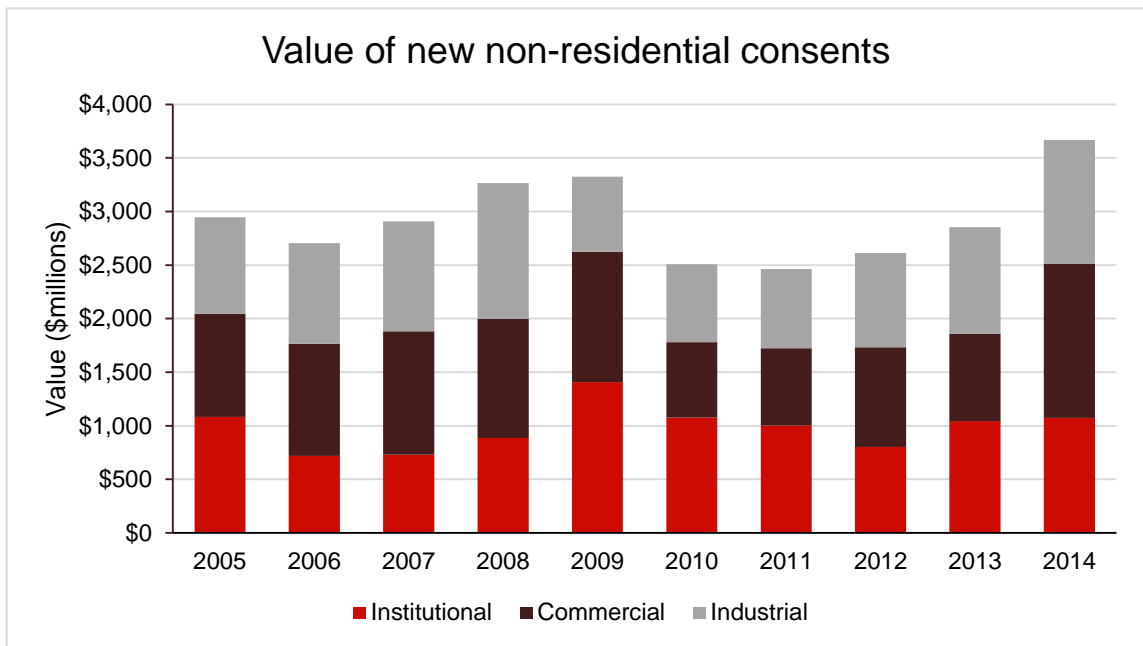
¹ *Whats-On report (Monthly)*. TF Stevens & Co Ltd, Auckland, New Zealand.

A limitation of the survey is that it does not ask why certain materials are selected. This means that the report contains no commentary on why material trends might be changing.

The value of new non-residential consents is presented in Figure 1. The following figures encompass the growth period from 2006 through to 2009, as well as the decline in values between 2010 and 2013. 2014 saw a large increase in the value of consents for new non-residential buildings. This was largely due an increase in building activity driven by the commercial sector.

The values have been broken down into three different building types; institutional, commercial and industrial.

Figure 1. Value of new non-residential consents



2. SUMMARY

In general, many of the market shares of materials have been relatively steady over the years surveyed. There are a few exceptions to this:

- Sheet metal roof cladding had a significant decrease in share in 2014. This was largely due to the increase in the use of plastic in farm buildings.
- Steel main structural frames had a strong increase in share between 2012 and 2014.
- Timber wall infill framing decreased in share, largely at the expense of steel.

3. MAIN RESULTS

Key results are shown in the following charts. The data for these charts are in the tables in the appendix.

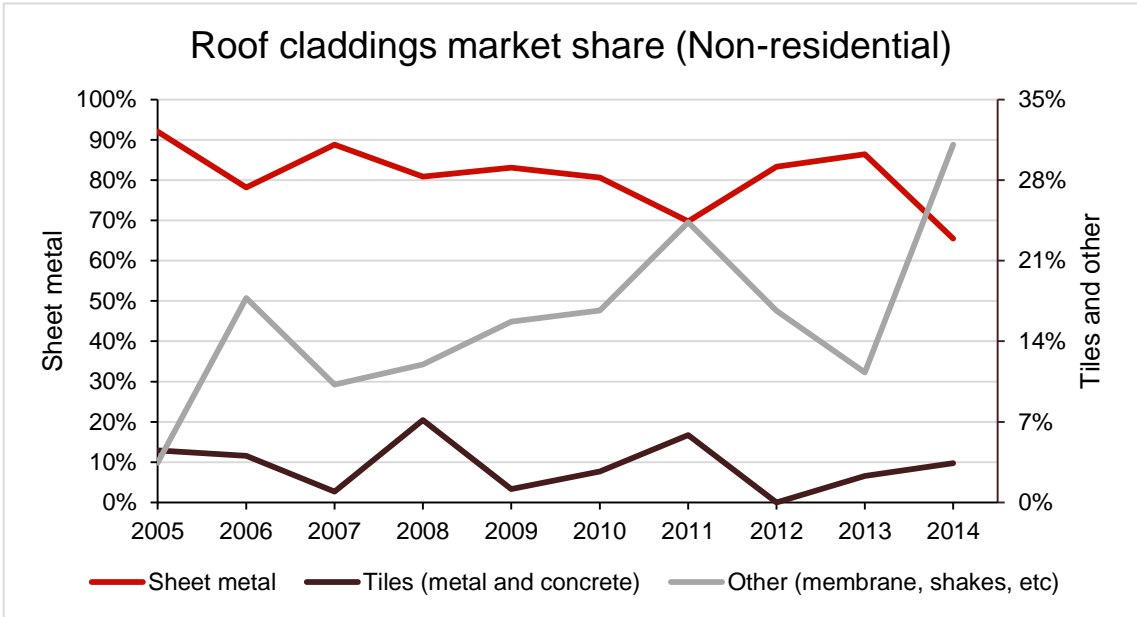
Due to the variations in the mix of buildings year-to-year, market shares can be highly variable. Therefore, changes in share may be due to a change of building types rather than a change in preference for any particular building material.

3.1 Roof Claddings

Sheet metal is the dominant roof cladding for new non-residential buildings. In the period from 2005 to 2011, sheet metal's share decreased from just over 90% to about 70%. The following two years saw an increase in its share up to 86%. However, in 2014 sheet metal's share decreased by 20 percentage points.

"Other" had a large increase in share in 2014. This is largely due to the increased use of plastic in farm buildings.

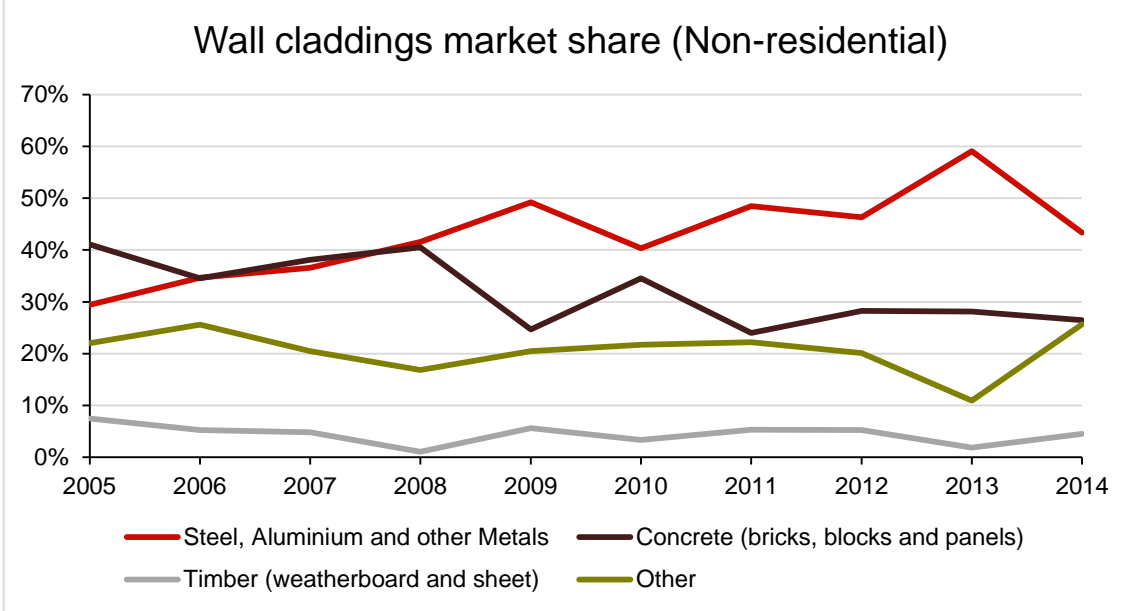
Figure 2. Roof claddings market share



3.2 Wall Claddings

Steel, aluminium and other metals are the dominant wall cladding material. Their share has been trending upwards since 2005, although 2014 saw a dip in share of about 16 percentage points. “Other” saw a slight uptick in share in 2014 after falling between 2011 and 2013.

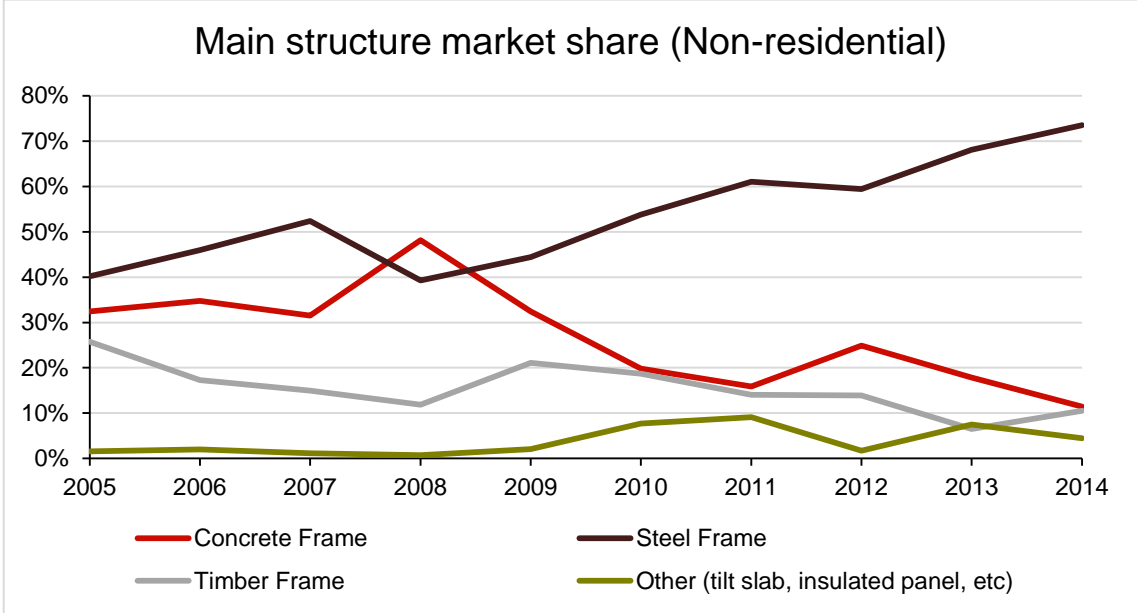
Figure 3. Wall claddings market share



3.3 Main Structure

Steel main structural frames have been trending upwards over the period shown in Figure 4. This has largely been at the expense of concrete main structural frames which has trended downwards over the same period. Timber main structural frames have also been trending downwards.

Figure 4. Main structure market share

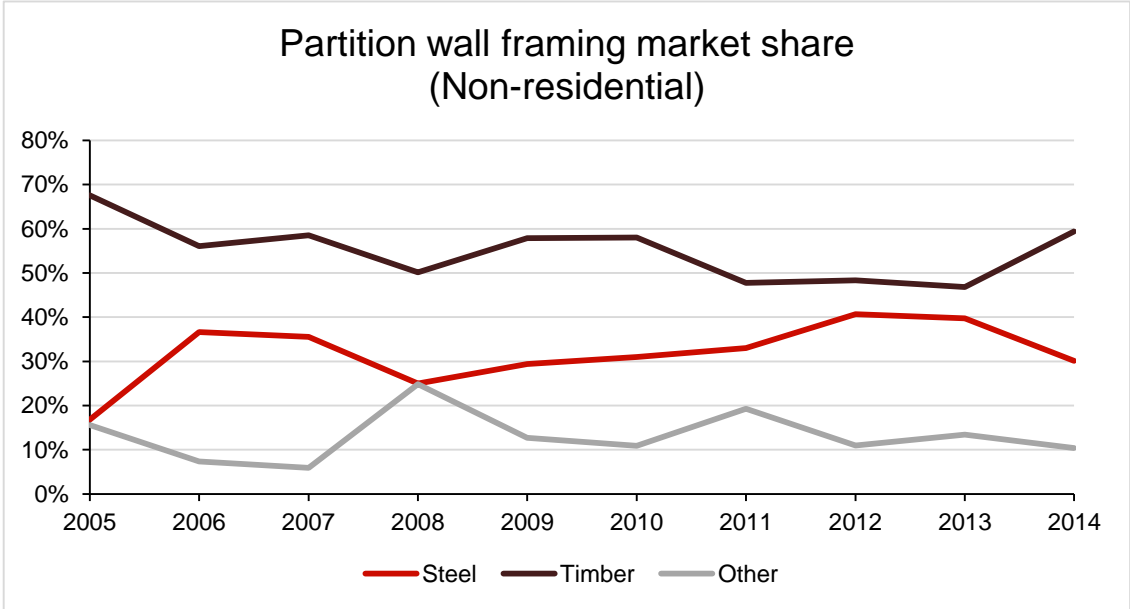


3.4 Partition Wall Framing

Timber is the dominant partition wall framing material. Its share has trended downwards for several years. However, it had a strong increase in share in 2014 up to about 60%.

Steel increased its share between 2008 and 2012. However, 2013 saw a flattening out in its share before a fall in 2014.

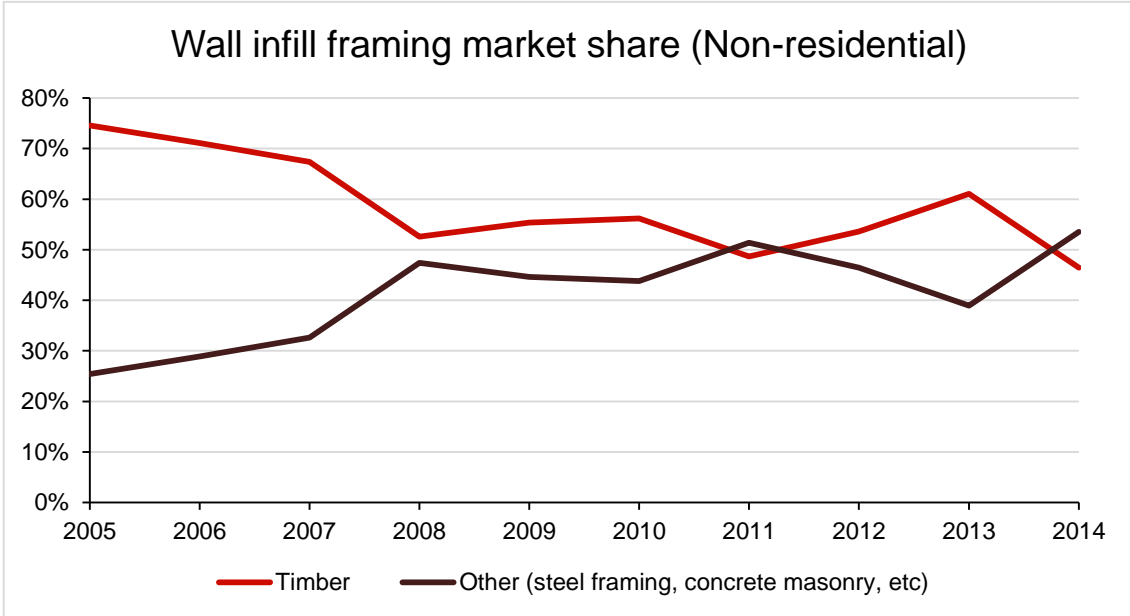
Figure 5. Partition wall framing market share



3.5 Wall Infill Framing

Wall infill framing is the framing between the main structural frame. Timber framing has been trending downwards over the period shown in Figure 6. In 2014, “Other” had a larger share than timber for the second time in 9 years.

Figure 6. Wall infill framing market share



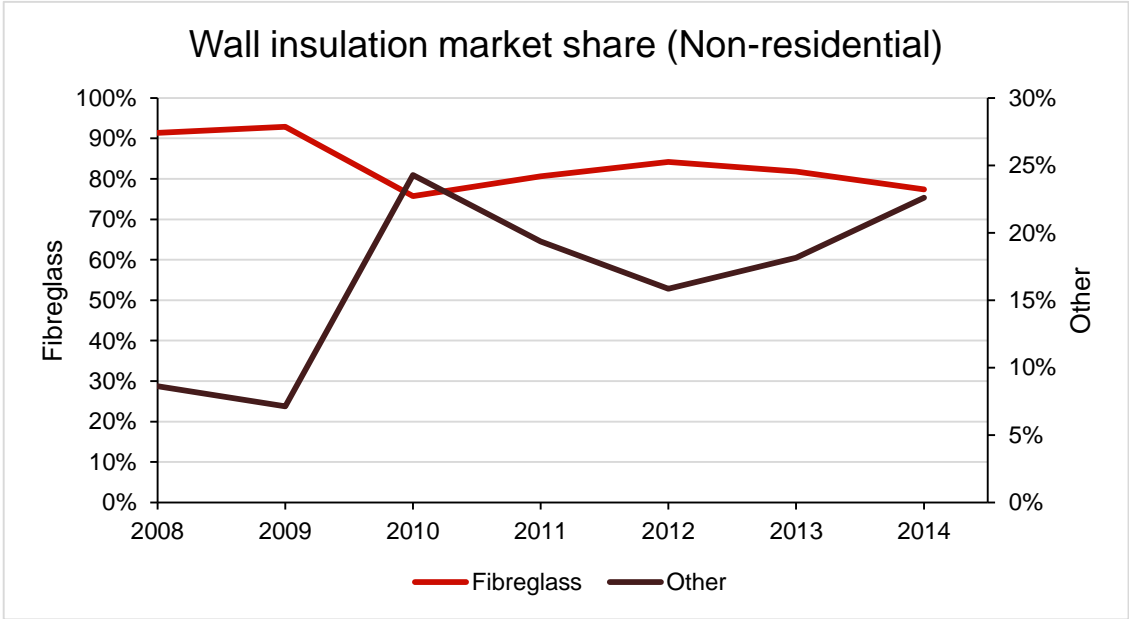
3.6 Insulation

Wall insulation, ceiling insulation and floor insulation are dealt with separately in this section. Farm buildings have not been included in the following market shares as it is uncommon for farm buildings to use insulation, and they have a large share of the non-residential building market.

3.6.1 Wall Insulation

Fibreglass is the dominant wall insulation material. Its share has been fairly steady since 2010.

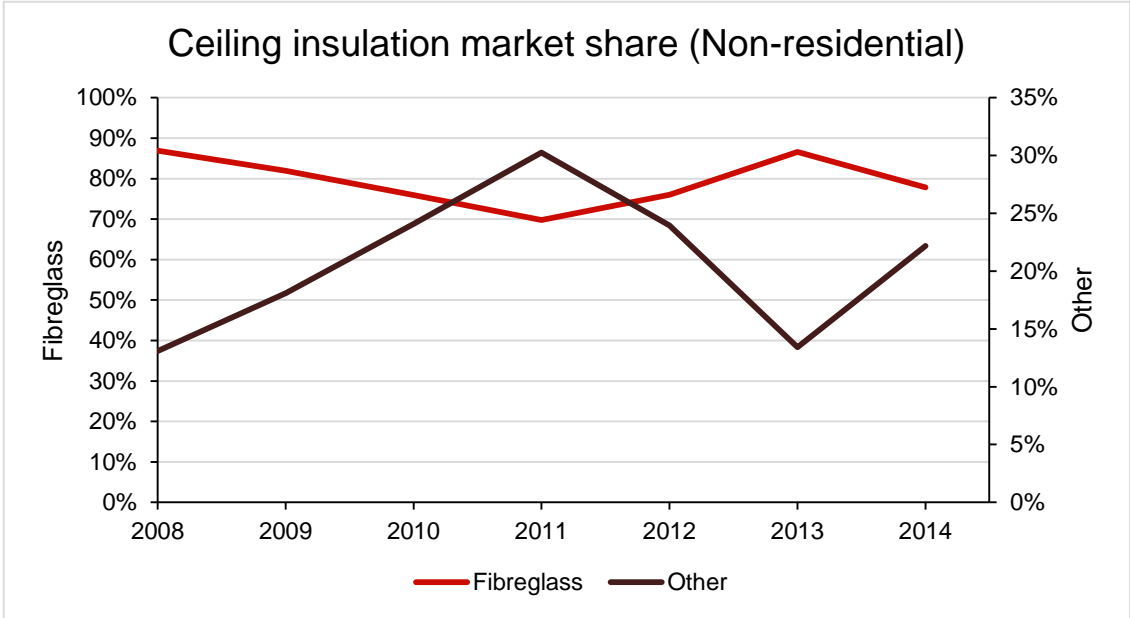
Figure 7. Wall insulation market share



3.6.2 Ceiling Insulation

Fibreglass is also the dominant ceiling insulation material. Its share dipped between 2008 and 2011, but has been trending upwards recently (despite a small decrease in 2014).

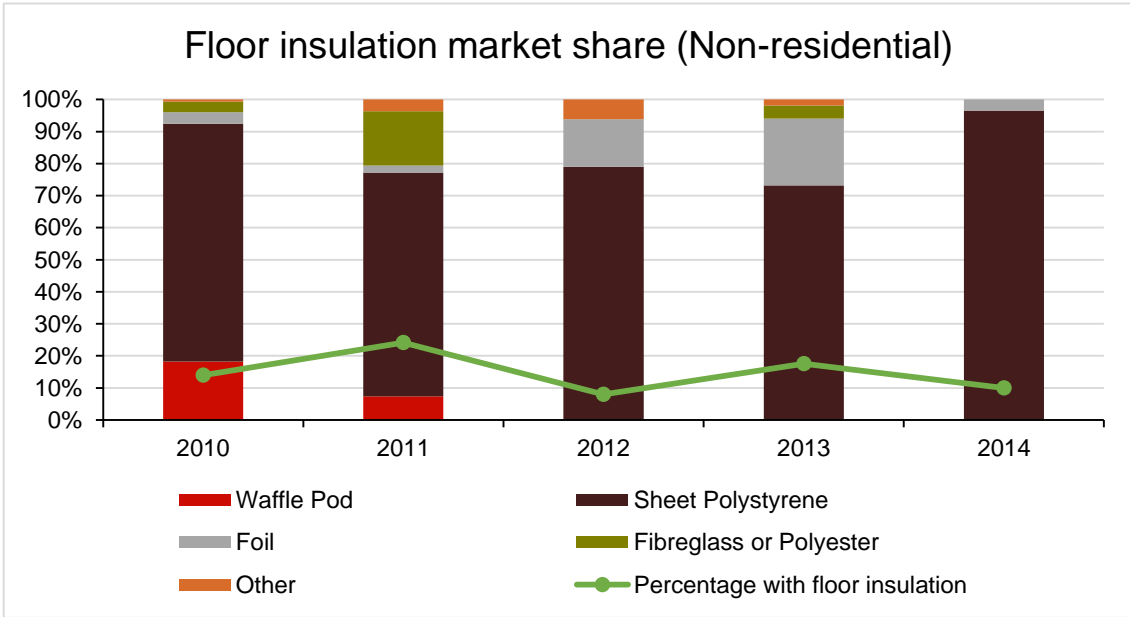
Figure 8. Ceiling insulation market share



3.6.3 Floor Insulation

The majority of non-residential buildings do not have floor insulation. For those buildings with floor insulation, sheet polystyrene is the most common floor insulation material. Both foil, and fibreglass or polyester have been common choices for floor insulation in the past.

Figure 9. Floor insulation



4. APPENDIX

This appendix contains:

- Tables of data for the charts
- BRANZ Non-Residential survey forms.

4.1 Results Tables

Table 1. Roof claddings market share

Roof claddings market share in new non-residential buildings										
Yearly data 2005-2014										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Sheet metal	92%	78%	89%	81%	83%	81%	70%	83%	86%	66%
Tiles (metal and concrete)	5%	4%	1%	7%	1%	3%	6%	0%	2%	3%
Other (membrane, shakes, etc)	3%	18%	10%	12%	16%	17%	24%	17%	11%	31%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Note: Percentages weighted to allow for different building types

Table 2. Wall claddings market share

Wall claddings market share in new non-residential buildings										
Yearly data 2005-2014										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Steel, Aluminium and other Metals	29%	35%	37%	42%	49%	40%	49%	46%	59%	43%
Concrete (bricks, blocks and panels)	41%	35%	38%	41%	25%	35%	24%	28%	28%	26%
Timber (weatherboard and sheet)	7%	5%	5%	1%	6%	3%	5%	5%	2%	5%
Other	22%	26%	20%	17%	20%	22%	22%	20%	11%	26%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Note: Percentages weighted to allow for different building types

Table 3. Main structure market share

Main structure market share in new non-residential buildings										
Yearly data 2005-2014										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Concrete Frame	32%	35%	31%	48%	32%	20%	16%	25%	18%	11%
Steel Frame	40%	46%	52%	39%	44%	54%	61%	59%	68%	73%
Timber Frame	26%	17%	15%	12%	21%	19%	14%	14%	7%	11%
Other (tilt slab, insulated panel, etc)	2%	2%	1%	1%	2%	8%	9%	2%	8%	4%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Note: Percentages weighted to allow for different building types

Table 4. Partition wall framing market share

Partition wall framing market share in new non-residential buildings										
Yearly data 2005-2014										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Steel	17%	37%	36%	25%	29%	31%	33%	41%	40%	30%
Timber	68%	56%	59%	50%	58%	58%	48%	48%	47%	59%
Other	16%	7%	6%	25%	13%	11%	19%	11%	13%	10%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Note: Percentages weighted to allow for different building types

Table 5. Wall infill framing market share

Wall infill framing market share in new non-residential buildings										
Yearly data 2005-2014										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Timber	75%	71%	67%	53%	55%	56%	49%	54%	61%	46%
Other (steel framing, concrete masonry, etc)	25%	29%	33%	47%	45%	44%	51%	46%	39%	54%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Note: Percentages weighted to allow for different building types

Table 6. Wall insulation market share

Wall insulation market share in new non-residential buildings							
Yearly data 2008-2014							
	2008	2009	2010	2011	2012	2013	2014
Fibreglass	91%	93%	76%	81%	84%	82%	77%
Other	9%	7%	24%	19%	16%	18%	23%
TOTAL	100%	100%	100%	100%	100%	100%	100%

Note: Percentages weighted to allow for different building types

Table 7. Ceiling insulation market share

Ceiling insulation market share in new non-residential buildings							
Yearly data 2005-2014							
	2008	2009	2010	2011	2012	2013	2014
Fibreglass	87%	82%	76%	70%	76%	87%	78%
Other	13%	18%	24%	30%	24%	13%	22%
TOTAL	100%	100%	100%	100%	100%	100%	100%

Note: Percentages weighted to allow for different building types

Table 8. Floor insulation market share

Floor insulation market share in new non-residential buildings					
Yearly data 2005-2014					
	2010	2011	2012	2013	2014
Waffle Pod	18%	7%	0%	0%	0%
Sheet Polystyrene	74%	70%	79%	73%	97%
Foil	4%	2%	15%	21%	3%
Fibreglass or Polyester	3%	17%	0%	4%	0%
Other	1%	4%	6%	2%	0%
TOTAL	100%	100%	100%	100%	100%
Percentage with floor insulation	14%	24%	8%	18%	10%

Note: Percentages weighted to allow for different building types

4.2 Survey Form March 2007

NON-RESIDENTIAL BUILDINGS			
Please give this form to the builder or designer to fill out for the building consent listed over the page. Contract value of work (incl sub-trades) \$ incl GST.			
Type of Building (state type) e.g. Office, school, farm building etc			
New <input type="checkbox"/>	Addition <input type="checkbox"/>	Alteration <input type="checkbox"/>	Floor area sqm Number of storeys Average storey heightm (describe alterations)
Main Structure tick one or more			
Concrete frame <input type="checkbox"/>	Steel frame <input type="checkbox"/>	Timber frame <input type="checkbox"/>	Tilt slab <input type="checkbox"/>
		Conc block <input type="checkbox"/>	Laminated wood <input type="checkbox"/>
Other.....(state)			
Floor base material			
Concretesqm	Particle Boardsqm	Plywoodsqm	Other (state) sqm
Partition Wall Framing tick one or more			
Timber <input type="checkbox"/>	Steel <input type="checkbox"/>	Other(state)	
Amount of Timber Framing (only applicable if framing work is done)			
Cub metres	or	Wall/floor area	SIZES/spacing
Walls <input type="checkbox"/>	or	<input type="checkbox"/>	with <input type="checkbox"/>
Walls <input type="checkbox"/>	or	<input type="checkbox"/>	with <input type="checkbox"/>
Floors <input type="checkbox"/>	or	<input type="checkbox"/>	with <input type="checkbox"/>
Roof <input type="checkbox"/>	or	<input type="checkbox"/>	with <input type="checkbox"/>
Roof <input type="checkbox"/>	or	<input type="checkbox"/>	with <input type="checkbox"/>
cum		sqm	
Example Walls and Roof 550sqm with 150x50mm @600 ctrs. 2000sqm with 100x50mm @450 ctrs. 300 sqm with 100x50mm truss @900 ctrs.			
Secondary Wall Framing tick one or more			
Radiata <input type="checkbox"/>	Steel <input type="checkbox"/>	Douglas fir <input type="checkbox"/>	Concrete block <input type="checkbox"/>
Other <input type="checkbox"/> (state)			
Timber treatment (for framing)			
Untreated kiln dry <input type="checkbox"/>		Please tick one or more	
<input type="checkbox"/>		Untreated Wet <input type="checkbox"/>	H1.2 <input type="checkbox"/>
<input type="checkbox"/>		T1.2 (orange) <input type="checkbox"/>	H3.1 <input type="checkbox"/>
State where used (eg outer walls, subfloor, etc)			
Building wraps (tick one or more)			
Roof <input type="checkbox"/>	Flamestop® <input type="checkbox"/>	Thermakraft <input type="checkbox"/>	Bitumac® <input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(tick one or more)			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wall cladding (only applicable if there is new wall cladding)			
State type			
Type	% area.....	e.g.	tilt slab, 60%
Type	% area.....	concrete block, 15%	also plywood, solid plaster(min 18mm), plaster on polystyrene, sheet steel, PVC weatherboard, etc.
Type	% area.....	glazing, 10%	
Type	% area.....	fibre cement, 15%	
		Total	100%
If yes to Fibre Cement cladding what is the Manufacturer? (tick one or more)			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fibre Cement Product was used as (Circle one or more)			
Applied texture finish sheet, Flat sheet,		FC plank, FC weatherboard/Linea	
If solid plaster, what backing? (circle one if solid plaster)			
fibre cement, plywood,		paper,	Triple S, block/brick, metal lathe
Wet area linings (bathroom, kitchen, laundry etc)			
Please tick one or more and the approximate square meters used.			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other <input type="checkbox"/> (state)			
Roof cladding (only applicable if there is new roof cladding)			
Type		Roof areasq metres.	
eg pre-coated steel shallow profile, trough steel profile, aluminum sheet, metal tiles, butyl rubber sheet, bitumen asphalt sheet, etc			
Thank You. Please fold this form, and freepost it in the return envelope			Mar-07

4.3 Survey Form November 2011

NON-RESIDENTIAL																																																																
Please give this form to the builder or designer to fill out for the building consent listed over the page. Contract value of work (incl sub-trades) \$ Incl GST																																																																
Type of Building (state type) e.g. Office, school, farm building etc <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> tick floor area New <input type="checkbox"/> sqm Addition <input type="checkbox"/> sqm Alteration <input type="checkbox"/> (describe alteration) </div> <div style="width: 45%;"> Number of storeys: Average storey height: m </div> </div>																																																																
Are you claiming "green" building features? Yes / No If Yes, what type?																																																																
Main Structure Concrete Frame <input type="checkbox"/> Timber Frame <input type="checkbox"/> Concrete block <input type="checkbox"/> LVL <input type="checkbox"/> Glulam <input type="checkbox"/> Steel Frame <input type="checkbox"/> Tilt Slab <input type="checkbox"/> Other (state)																																																																
Floor Base Material Concrete sqm Particle Board sqm Plywood sqm Other (state) sqm If concrete, have any steel deck trays been used? Yes / No (circle one)																																																																
Partition Wall Framing (tick one or more) Timber <input type="checkbox"/> Steel <input type="checkbox"/> Concrete <input type="checkbox"/> Other (state)																																																																
Wall Infill Framing (between main frame) (tick one or more) Radiata <input type="checkbox"/> Steel <input type="checkbox"/> Douglas Fir <input type="checkbox"/> Concrete block <input type="checkbox"/> Other (state)																																																																
Prefabrication Are any prefabricated components used? Yes / No If yes, describe applicable component(s) below: Prefab Frame Prefab Floors Prefab Walls Prefab Other																																																																
Insulation (tick one or more) <table style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td>None</td> <td>Pink Batts</td> <td>Bradford Gold</td> <td>Premier Fibreglass</td> <td>Brown FG Rocwool</td> <td>Greenstuf (polyester)</td> <td>Other Polyester</td> <td>Wool</td> <td>Polystyrene</td> <td>Other (state)</td> </tr> <tr> <td>Wall insulation</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Ceiling insulation</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td></td> <td>None</td> <td>Warmfeet</td> <td colspan="2">Under Slab</td> <td>Snug Floor</td> <td>Sisalation</td> <td>Ribraft</td> <td colspan="2">Cupolex</td> <td>Other (state)</td> </tr> <tr> <td>Floor insulation</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td colspan="2"><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td colspan="2"><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table> Insulation Installer (name) Builder <input type="checkbox"/> Other (please specify)											None	Pink Batts	Bradford Gold	Premier Fibreglass	Brown FG Rocwool	Greenstuf (polyester)	Other Polyester	Wool	Polystyrene	Other (state)	Wall insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ceiling insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		None	Warmfeet	Under Slab		Snug Floor	Sisalation	Ribraft	Cupolex		Other (state)	Floor insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
	None	Pink Batts	Bradford Gold	Premier Fibreglass	Brown FG Rocwool	Greenstuf (polyester)	Other Polyester	Wool	Polystyrene	Other (state)																																																						
Wall insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																						
Ceiling insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																																						
	None	Warmfeet	Under Slab		Snug Floor	Sisalation	Ribraft	Cupolex		Other (state)																																																						
Floor insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>																																																						
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Wall Cladding State type and approximate % wall coverage e.g. Fibre cement, 75% Other examples include: tilt slab, concrete block, steel zincalume, glazing, aluminium, Clay Brick, 15% radiata WB, linea WB etc. Cedar WB, 10% Type % area Type % area Type % area If Fibre Cement cladding is used, who is the manufacturer? Hardies <input type="checkbox"/> BGC <input type="checkbox"/> CSR <input type="checkbox"/> PRIMA <input type="checkbox"/> Other <input type="checkbox"/> Eterpan <input type="checkbox"/> Fibre Cement product used as Applied texture finish sheet, Flat sheet, FC plank (7.5mm), Linea (16mm) If solid plaster, what backing was used? Fibre cement, plywood, paper, Triple S, block/brick, metal lathe																																																																
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Roof Cladding (only applicable if there is new roof cladding) What roof cladding was used? (circle one or state below) metal tiles, pre-painted corrugated, trough zincalume, other steel profiles, concrete tiles, butyl, asphalt shingles, other (state) Approx. Roof Area: sqm Type of roof structure Timber <input type="checkbox"/> Steel <input type="checkbox"/> Concrete Slab <input type="checkbox"/>																																																																
Thank you. Please fold this form, and freepost it in the return envelope Nov-11																																																																

4.4 Survey Form December 2014

NON-RESIDENTIAL																	
Please give this form to the builder or designer to fill out for the building consent listed over the page.																	
Contract value of work (Incl sub-trades) \$ _____					incl GST												
Type of Building _____ (state type) e.g. Office, school, farm building etc																	
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 2px;">tick</td> <td style="padding: 2px;">floor area</td> </tr> <tr> <td style="text-align: center; padding: 2px;">New <input type="checkbox"/></td> <td style="padding: 2px;">_____ sqm</td> </tr> <tr> <td style="text-align: center; padding: 2px;">Addition <input type="checkbox"/></td> <td style="padding: 2px;">_____ sqm</td> </tr> <tr> <td style="text-align: center; padding: 2px;">Alteration <input type="checkbox"/></td> <td style="padding: 2px;">(describe alterations) _____</td> </tr> </table>		tick	floor area	New <input type="checkbox"/>	_____ sqm	Addition <input type="checkbox"/>	_____ sqm	Alteration <input type="checkbox"/>	(describe alterations) _____	Number of storeys: _____			Average storey height: _____ m				
tick	floor area																
New <input type="checkbox"/>	_____ sqm																
Addition <input type="checkbox"/>	_____ sqm																
Alteration <input type="checkbox"/>	(describe alterations) _____																
Are you claiming "green" building features? Yes / No If Yes, what type? _____																	
Main Structure																	
Concrete Frame <input type="checkbox"/>		Timber Frame <input type="checkbox"/>		Concrete Block <input type="checkbox"/>		LVL <input type="checkbox"/>		Glulam <input type="checkbox"/>									
Steel Frame <input type="checkbox"/>		Tilt Slab <input type="checkbox"/>		Insulated Panel <input type="checkbox"/>		Other (state) _____											
Floor Base Material																	
Concrete _____ sqm			Particle Board _____ sqm			Plywood _____ sqm		Other (state) _____ sqm									
If concrete, have any steel deck trays been used? Yes / No (circle one)																	
Partition Wall Framing (tick one or more)																	
Timber <input type="checkbox"/>		Steel <input type="checkbox"/>		Concrete <input type="checkbox"/>		Other (state) _____											
Wall Infill Framing (between main frame) (tick one or more)																	
Radiata <input type="checkbox"/>		Steel <input type="checkbox"/>		Douglas Fir <input type="checkbox"/>		Concrete block <input type="checkbox"/>		Other (state) _____									
Prefabrication																	
Are any prefabricated components used? Yes / No If yes, describe applicable component(s) below:																	
Prefab Frame _____					Prefab Floors _____												
Prefab Walls _____					Prefab Other _____												
Insulation																	
(tick one or more)																	
None <input type="checkbox"/>		Pink Batts <input type="checkbox"/>		Bradford Gold <input type="checkbox"/>		Premier <input type="checkbox"/>		Knauf Earthwool <input type="checkbox"/>									
Autex <input type="checkbox"/>		Other <input type="checkbox"/>		Other (state) <input type="checkbox"/>		Other (state) _____											
Wall insulation																	
Ceiling insulation																	
None <input type="checkbox"/>		Warmfeet <input type="checkbox"/>		Under Slab <input type="checkbox"/>		Snug Floor <input type="checkbox"/>		Foil <input type="checkbox"/>									
Floor <input type="checkbox"/>		Cupolex <input type="checkbox"/>		Other (state) <input type="checkbox"/>		Other (state) _____											
Floor insulation																	
Insulation Installer (name) Builder <input type="checkbox"/> Other (please specify) <input type="checkbox"/> _____																	
Building Wraps																	
Flamestop <input type="checkbox"/>		Thermakraft <input type="checkbox"/>		Bitumac <input type="checkbox"/>		CoverTek <input type="checkbox"/>		Pauloid <input type="checkbox"/>									
Tyvek Supro <input type="checkbox"/>		Other (state) <input type="checkbox"/>		Watergate plus <input type="checkbox"/>		Tekton <input type="checkbox"/>											
(tick one or more)																	
Flamestop <input type="checkbox"/>		Tyvek <input type="checkbox"/>		Thermakraft <input type="checkbox"/>		Coverup <input type="checkbox"/>		Home RAB <input type="checkbox"/>									
Fastwrap <input type="checkbox"/>		Other <input type="checkbox"/>		Watergate <input type="checkbox"/>		Tekton <input type="checkbox"/>		Ecoply Barrier <input type="checkbox"/>									
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