STUDY REPORT

SR 330 (2015)

Physical characteristics of new houses 2014

MD Curtis

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Preface

This is the fourth annual report providing the results of the BRANZ New Dwellings Survey. BRANZ surveys builders of new dwellings on the physical characteristics of their buildings. The purpose is to obtain data on new housing which is not available from official sources. This includes generic types of materials used by building component, as well as design information such as number of floors, prefabrication and efficiency measures. 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 houses 2014

BRANZ Study Report SR 330

MD Curtis

Abstract

Official data on the characteristics of new housing is very 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 or housing characteristics beyond the floor area.

The BRANZ New Dwelling Survey dates back to 1998 and collects data on materials used in new housing. We have since compiled a database of approximately 1,200 new houses per year containing information on the materials used by building component and design arrangements.

This report contains the results of those surveys on the materials used in new housing. It updates previous data with the inclusion of the 2014 data set. The aim is to provide information useful to building material manufacturers, retailers/wholesalers, builders, designers, researchers and Government officials. It updates data

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1. INTRODUCTION

BRANZ surveys 4,000 new residential buildings per year in the BRANZ New Dwellings Survey. This survey series started in 1998 and collects a variety of data on materials used in new housing.

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, over 1200 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 Whats-On[1] building consent data. BRANZ uses this to determine a sample of new dwellings 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 in each territorial authority (as indicated by building consents) in the calculation of the national market share. This prevents some territorial authorities from having a disproportionate share of the total market share should BRANZ receive a larger number of survey returns from one particular area. The results presented are only for new houses (i.e. single detached units).

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

- Claddings
- Framing
- House storeys
- Flooring
- Floor joists
- Insulation
- Window frames

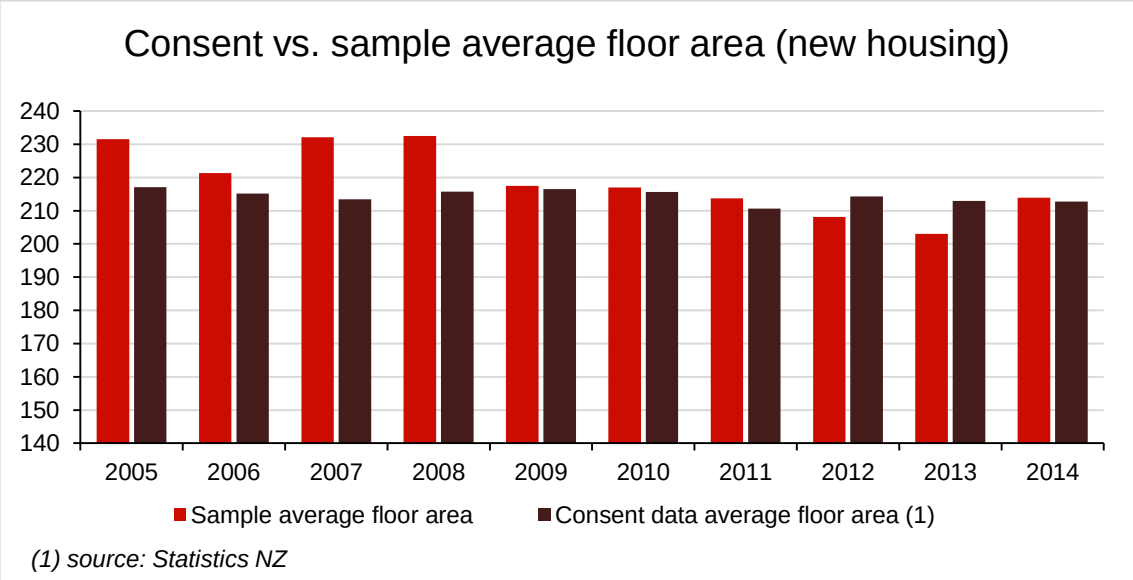
[1] *Whats-On report (Monthly).* TF Stevens & Co Ltd, Auckland, New Zealand.

- Double glazing

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 average floor areas since 2005 are presented in Figure 1 to illustrate any bias that may be present in the results. The sample average floor area for 2014 is slightly above the consent average floor area. This indicates that for the 2014 year, there is not a significant bias towards larger or smaller houses.

Figure 1. Consent vs. sample average floor area



(1) source: Statistics NZ

Samples of survey forms are shown in the appendix. Some questions change from survey to survey. However, most have remained the same since the start to ensure a consistent data set for comparative purposes.

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 though:

- In the wall claddings market, finish bricks have fallen in share between 2013 and 2014 largely due to the fall in use of clay bricks in Christchurch.
- Over the last two years, sheet metal's share of the roof claddings market has increased steadily.
- The use of solid timber floor joists has increased in 2014 following the dramatic decrease in share in 2013.
- The prevalence of waffle pods in houses with concrete slabs increased in share by about 10 percentage points in 2014.

3. MAIN RESULTS

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

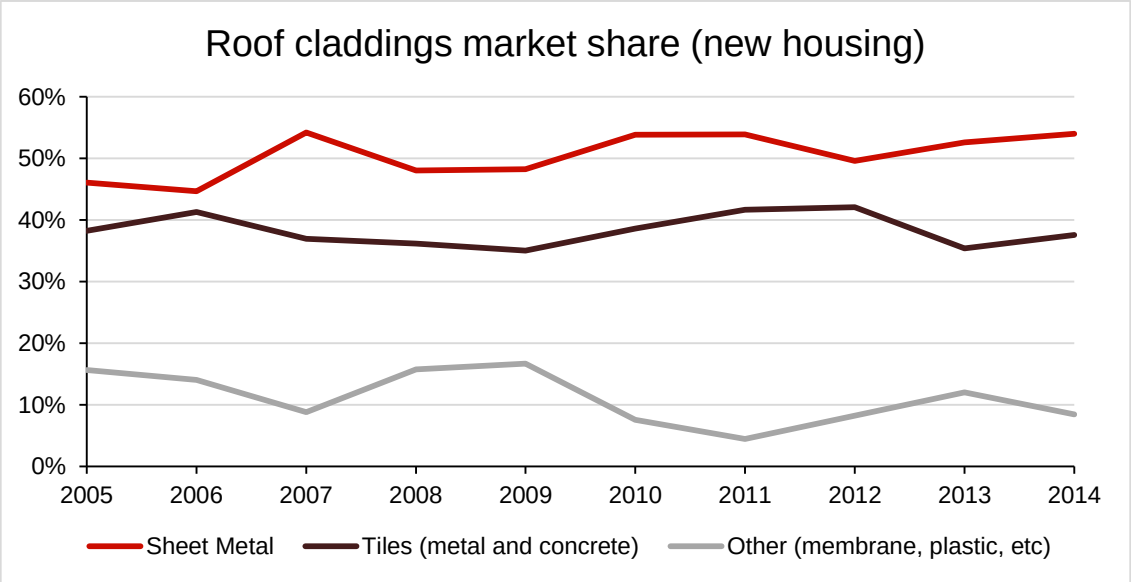
Where LHS has been used, this refers to the item using the axis on the left side, and RHS refers to the item using the axis on the right side.

3.1 Roof Claddings

Sheet metal is the dominant roof cladding material. Its share has been trending upwards over the last two years. Tiles' share (both metal and concrete) has recovered slightly from the dip in share sustained in 2013. "Other" was mostly asphalt shingles in 2014 and was down in share slightly from 2013.

Nevertheless, these shares have been reasonably consistent over time.

Figure 2. Roof claddings market share

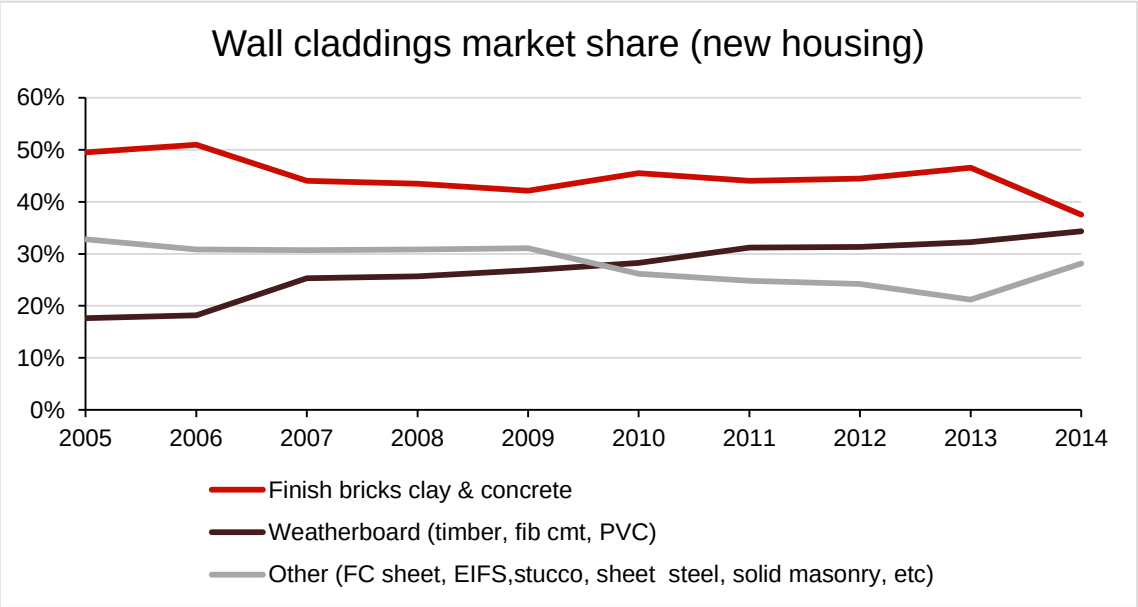


3.2 Wall Claddings

Finish bricks (both clay and concrete) had a decline in share in 2014 as the Canterbury rebuild continues and alternative materials are starting to be used. Weatherboard continued its upward trend, particularly due to a strong increase in use of timber weatherboards in 2014. “Other” also had an increase in share in 2014. This was partly due to aerated concrete panels becoming more prevalent, particularly as an alternative to clay brick in Christchurch.

Over the last 9 years, there has been a shift away from brick to weatherboard.

Figure 3. Wall claddings market share

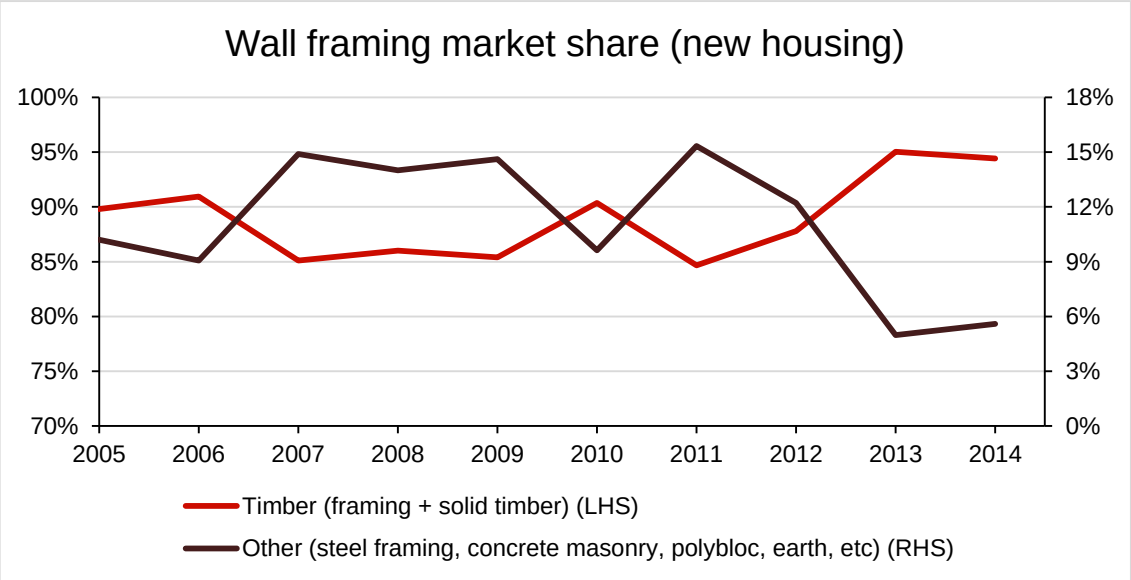


3.3 Wall Frames

Timber framing remains the predominant structural material in new housing. The share of timber wall framing decreased slightly in 2014. However, it still has a very strong share at just under 95%.

The use of precut or prenailed framing has remained relatively unchanged from 2013. 95% of respondents reported having precut or prenailed framing in 2014.

Figure 4. Wall framing market share



3.4 Number of Storeys

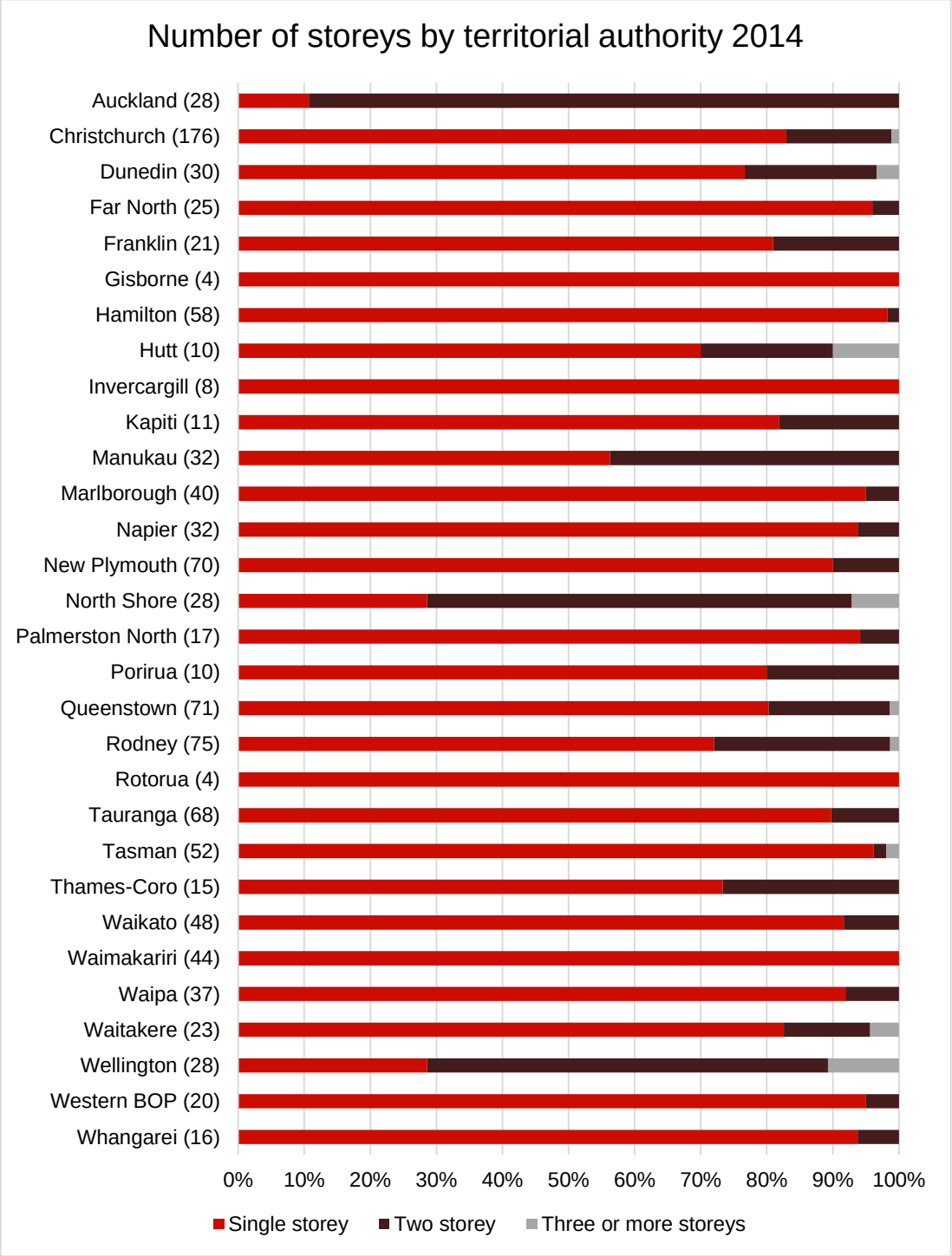
The following figure shows the proportion of new houses which were single storey, two storey or three or more storeys. We received no responses for the Southland territorial authority for 2014, so only the other 30 territorial authorities are shown. The number in brackets beside the name of the territorial authority is the number of responses received.

The Auckland region, in particular Central Auckland and the North Shore, had a high proportion of new houses that were multi-storey. This was also the case in Wellington City where just over 70% of new houses were multi-storey.

In less urban areas such as Gisborne, Invercargill, Rotorua and Waimakariri, we did not pick up any multi-storey new houses. This is not to say that no new houses were built in these areas that were multi-storey, just that none of our respondents built a multi-storey house. This is clearly a function of high land prices in the country's two largest cities, and less pressure on land prices elsewhere.

Just under 20% of new houses in Christchurch were multi-storey this year.

Figure 5. Number of storeys

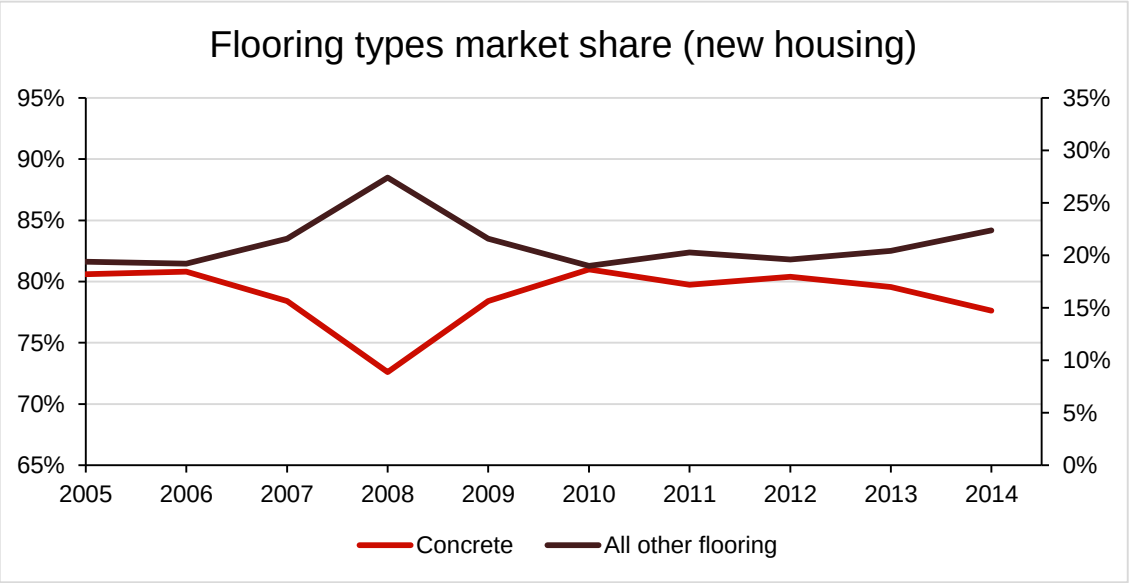


3.5 Flooring

Concrete flooring is the most common flooring type in new residential construction. This is largely due to the majority of new houses having a concrete slab. Concrete has been trending downwards in share since 2012 with some post-earthquake Canterbury rebuilds choosing to build with a timber subfloor rather than a concrete slab. There also seems to be a slight increase in the use of timber subfloors in the upper North Island.

"All other flooring" is mostly particleboard and strandboard. The percentages include upper floors which are usually wood based.

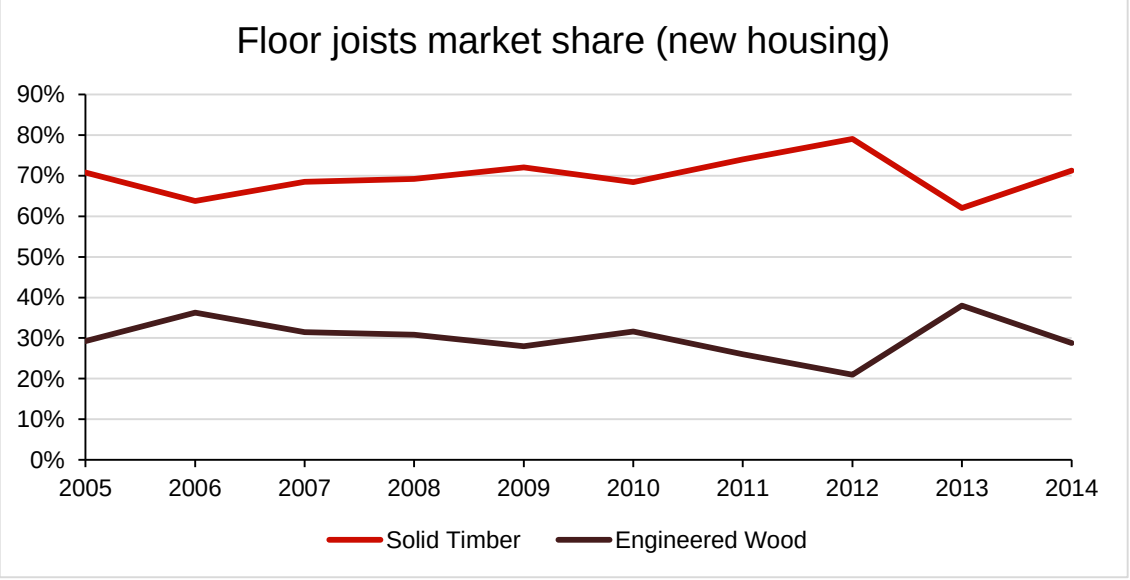
Figure 6. Flooring types market share



3.6 Floor Joists

Solid timber dominates the floor joists market. 2013 saw a closing of the gap between solid timber and engineered wood. However, solid timber increased in share by just under 10 percentage points in 2014.

Figure 7. Floor joists market share



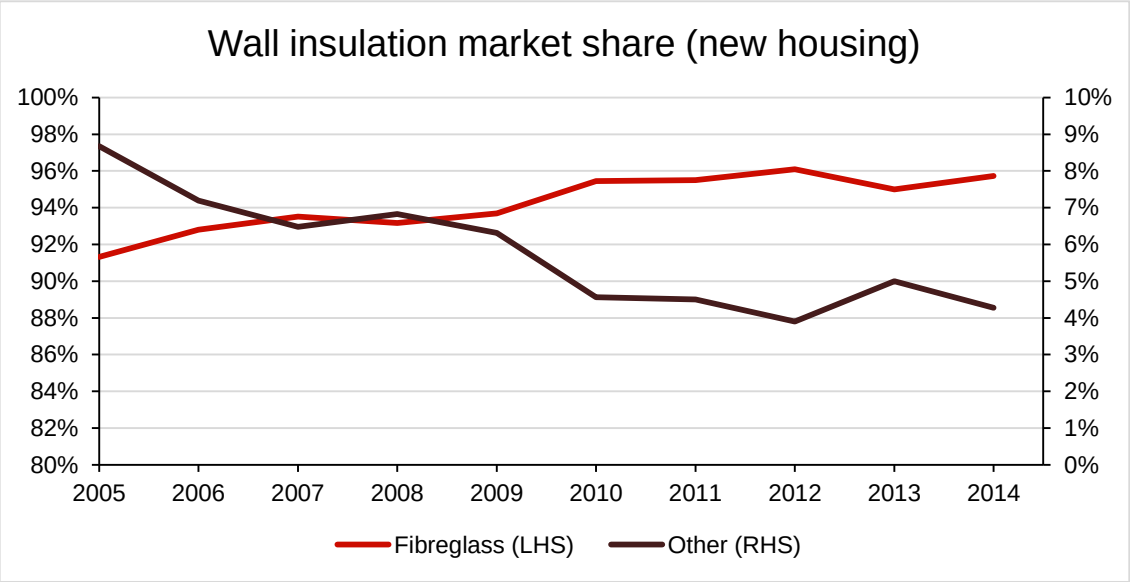
3.7 Insulation

Wall insulation, ceiling insulation and floor insulation for both concrete slabs and timber floors are dealt with separately in this section.

3.7.1 Wall Insulation

Fibreglass is the dominant wall insulation material. Its share has been trending upwards over the period shown below and now sits at about 96% market share. The “other” category is mainly polystyrene, polyester and natural wool.

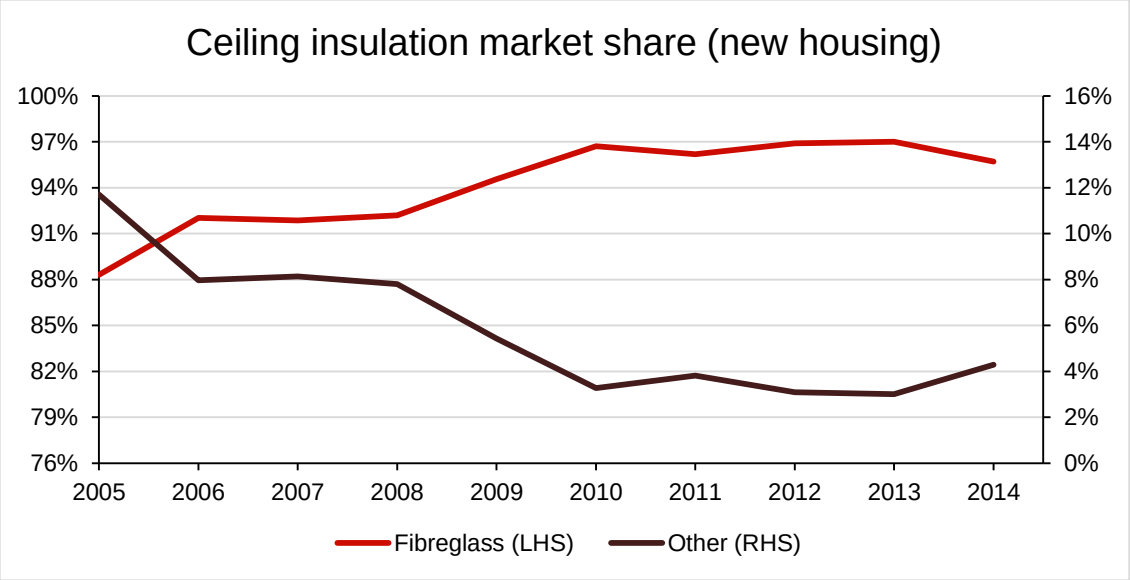
Figure 8. Wall insulation market share



3.7.2 Ceiling Insulation

Fibreglass is also the dominant ceiling insulation material. It is common for builders to use the same brand (or at least the same type) of material for both the wall and ceiling.

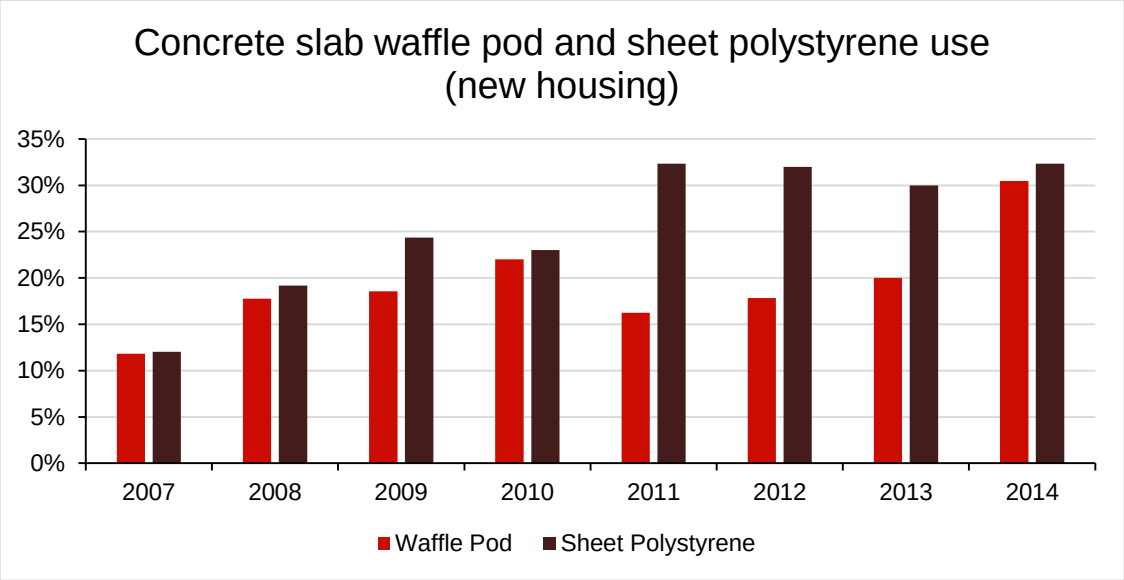
Figure 9. Ceiling insulation market share



3.7.3 Floor Insulation

Just over 30% of new houses with a concrete slab used sheet polystyrene to insulate their concrete slab in 2014. This was up slightly from the previous year, but slightly down on the highs of 2011 and 2012. Waffle pods had a sharp increase in share in 2014, up to about 30% from 20% in 2013. Approximately 37% of slabs were uninsulated in 2014.

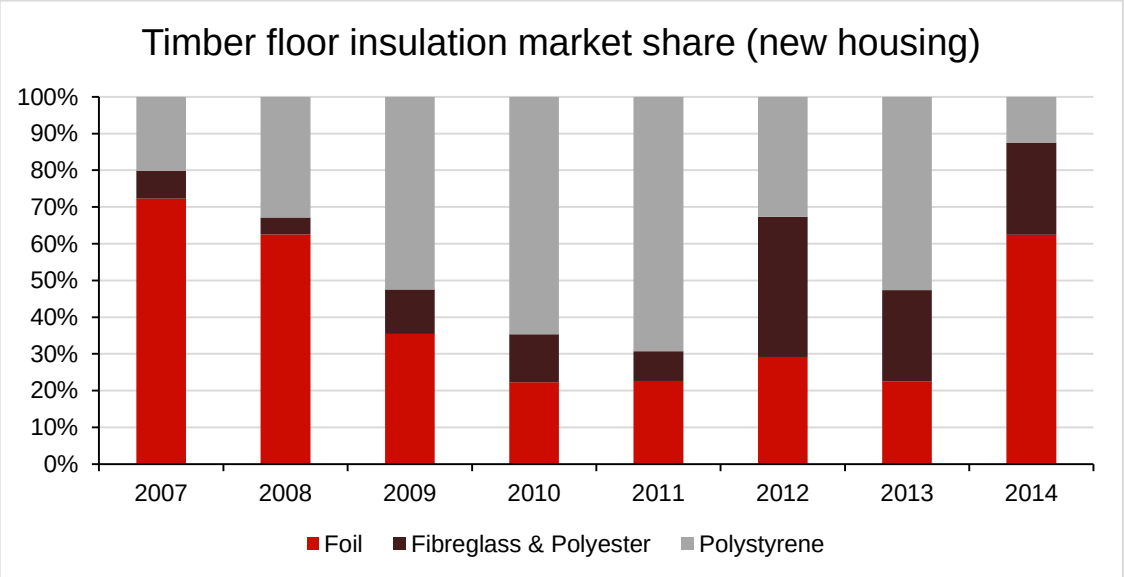
Figure 10. Concrete slab insulation market share



Timber subfloors are much less common than concrete slabs in new housing. Therefore, the shares presented below are susceptible to swings given the use of timber floor insulation in new houses being limited.

Foil insulation had a large increase in share in 2014 up to just over 60%. This was largely at the expense of fibreglass and polyester.

Figure 11. Timber floor insulation market share

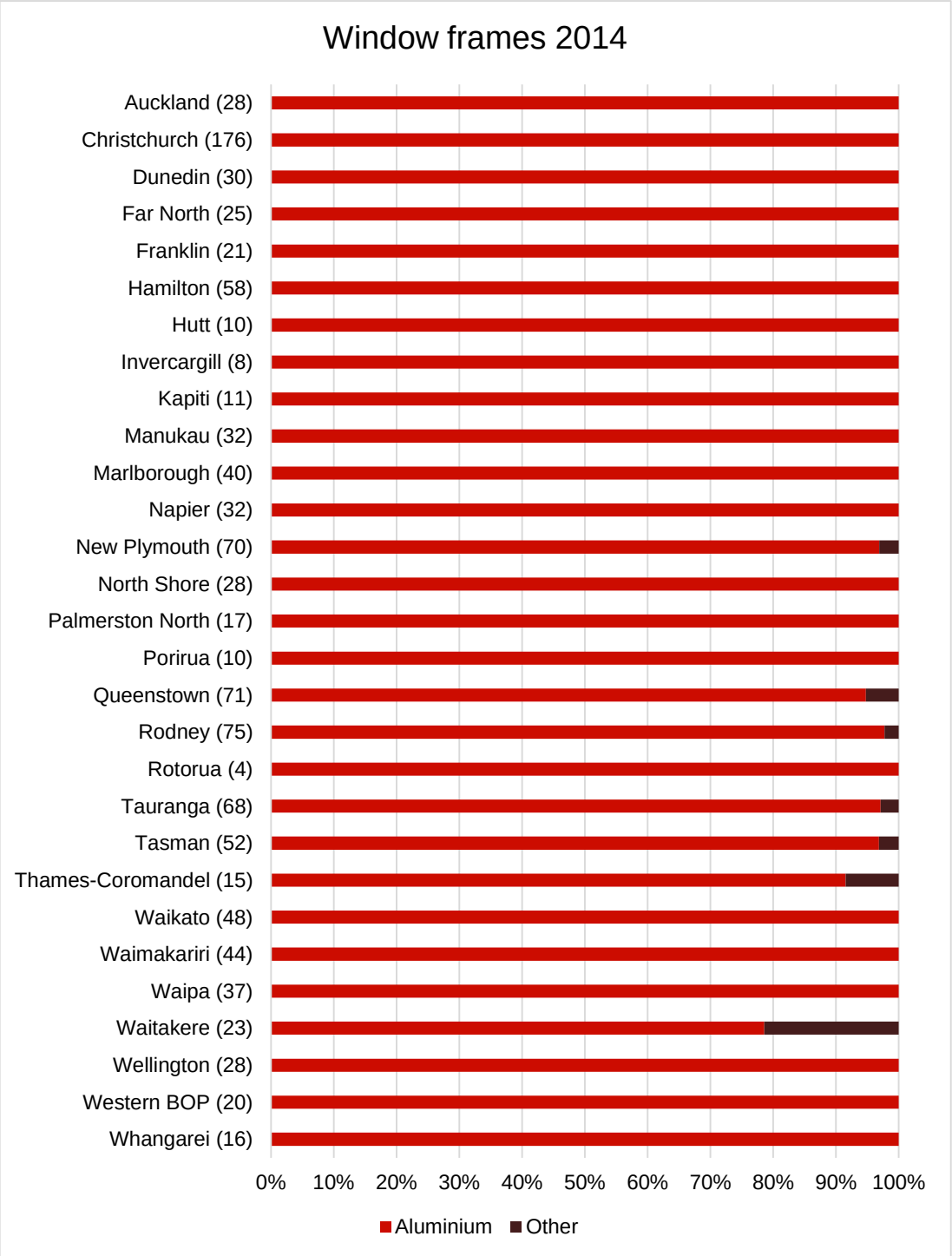


3.8 Window Frames

Aluminium is the dominant framing type. Standard aluminium and thermally broken aluminium are the most common window framing materials throughout the country. “Other” is mainly timber and PVC frames and their use is very limited.

No responses were received for the Gisborne and Southland territorial authorities for this question in 2014, so both have been left out of the figure below.

Figure 12. Window frames market share

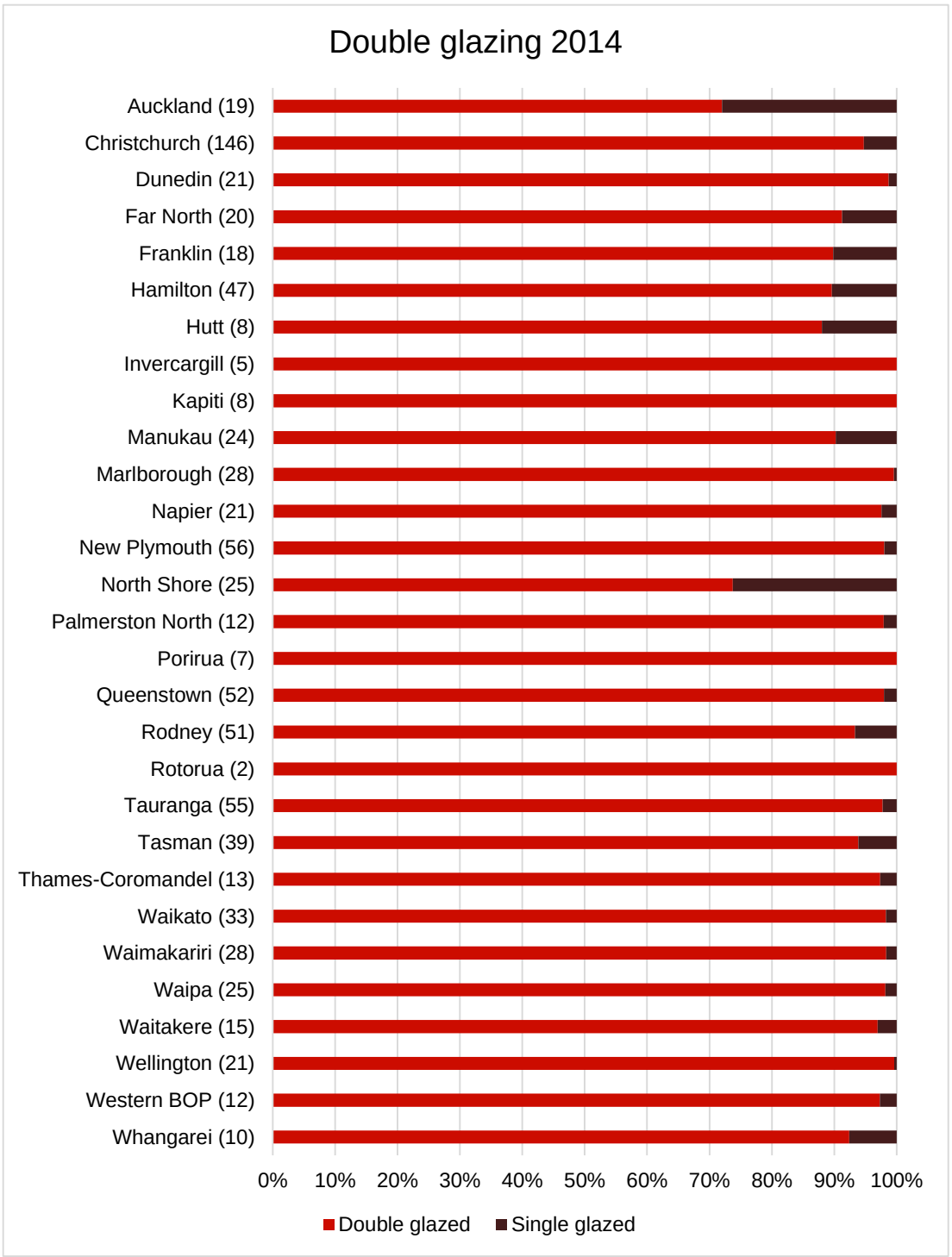


3.9 Double Glazing

Figure 13 shows the percentage of windows that were double glazed by territorial authority. We ask in the survey what percentage of windows are **at least** double glazed. It is common for some windows, particularly in the upper north island, not to be double glazed.

Territorial authorities in the Auckland region seem to have the highest proportion of single glazed windows.

Figure 13. Double glazing market share



4. APPENDIX

This appendix contains:

- Tables of data for the charts
- BRANZ New Dwellings survey forms.

4.1 Results Tables

Table 1. Roof claddings market share

Roof claddings market share in new housing Yearly Data 2005-2014	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Sheet Metal	46.1%	44.7%	54.2%	48.0%	48.3%	53.8%	53.9%	49.6%	52.6%	54.0%
Tiles (metal and concrete)	38.3%	41.3%	36.9%	36.2%	35.0%	38.6%	41.6%	42.1%	35.4%	37.6%
Other (membrane, plastic, etc)	15.6%	14.0%	8.8%	15.8%	16.7%	7.6%	4.5%	8.3%	12.0%	8.4%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Note: percentage weighted to allow for the regional building activity.										

Table 2. Wall claddings market share

Wall claddings market share in new housing Yearly Data 2005-2014	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Finish bricks clay & concrete	49.5%	51.0%	44.0%	43.5%	42.1%	45.5%	44.0%	44.5%	46.6%	37.6%
Weatherboard (timber, fib cmt, PVC)	17.7%	18.2%	25.3%	25.7%	26.8%	28.3%	31.2%	31.3%	32.2%	34.3%
Other (FC sheet, EIFS,stucco, sheet steel, solid masonry, etc)	32.8%	30.8%	30.7%	30.8%	31.1%	26.2%	24.8%	24.2%	21.2%	28.1%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Note: percentage weighted to allow for the regional building activity.										

Table 3. Wall framing market share

Wall framing market share in new housing Yearly Data 2005-2014	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Timber (framing + solid timber)	89.8%	90.9%	85.1%	86.0%	85.4%	90.4%	84.7%	87.8%	95.0%	94.4%
Other (steel framing, concrete masonry, polybloc, earth, etc))	10.2%	9.1%	14.9%	14.0%	14.6%	9.6%	15.3%	12.2%	5.0%	5.6%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100.0%
Note: percentage weighted to allow for the regional building activity.										

Table 4. Flooring types market share

Flooring types market share in new housing Yearly Data 2005-2014	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Concrete	80.6%	80.8%	78.4%	72.6%	78.4%	81.0%	79.7%	80.4%	79.6%	77.6%
All other flooring	19.4%	19.2%	21.6%	27.4%	21.6%	19.0%	20.3%	19.6%	20.4%	22.4%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Note: percentage weighted to allow for the regional building activity.										

Table 5. Floor joists market share

Floor joists market share in new housing Yearly Data 2005-2014										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Solid Timber	70.8%	63.8%	68.5%	69.2%	72.0%	68.4%	74.0%	79.0%	62.0%	71.2%
Engineered Wood	29.2%	36.2%	31.5%	30.8%	28.0%	31.6%	26.0%	21.0%	38.0%	28.8%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Note: percentage weighted to allow for the regional building activity.										

Table 6. Wall insulation market share

Wall insulation market share in new housing Yearly Data 2005-2014										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Fibreglass	91.3%	92.8%	93.5%	93.2%	93.7%	95.4%	95.5%	96.1%	95.0%	95.7%
Other	8.7%	7.2%	6.5%	6.8%	6.3%	4.6%	4.5%	3.9%	5.0%	4.3%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Note: percentage weighted to allow for the regional building activity.										

Table 7. Ceiling insulation market share

Ceiling insulation market share in new housing Yearly Data 2005-2014										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Fibreglass	88.3%	92.0%	91.9%	92.2%	94.6%	96.7%	96.2%	96.9%	97.0%	95.7%
Other	11.7%	8.0%	8.1%	7.8%	5.4%	3.3%	3.8%	3.1%	3.0%	4.3%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Note: percentage weighted to allow for the regional building activity.										

Table 8. Concrete slab waffle pod and sheet polystyrene use

Concrete slab waffle pod and sheet polystyrene use in new housing Yearly Data 2007-2014								
	2007	2008	2009	2010	2011	2012	2013	2014
Waffle Pod	11.8%	17.7%	18.6%	22.0%	16.3%	17.8%	20.0%	30.5%
Sheet Polystyrene	12.0%	19.2%	24.3%	23.0%	32.3%	32.0%	30.0%	32.3%
Note: percentage weighted to allow for the regional building activity.								

Table 9. Timber floor insulation market share

Timber floor insulation market share in new housing Yearly Data 2007-2014								
	2007	2008	2009	2010	2011	2012	2013	2014
Foil	72.3%	62.5%	35.5%	22.3%	22.6%	29.2%	22.5%	62.4%
Fibreglass & Polyester	7.6%	4.6%	12.1%	13.1%	8.1%	38.1%	24.9%	25.1%
Polystyrene	20.2%	32.9%	52.5%	64.6%	69.3%	32.7%	52.7%	12.4%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%
Note: percentage weighted to allow for the regional building activity.								

4.2 Survey Form October 2006

NEW DWELLING

Please give this form to the builder or designer to fill out for the building consent listed over the page.

Number of dwelling units ☐ in this consent. Contract value of work (incl sub-trades) $ …….…… incl GST.

Floor areas Total floor area _____ Sq metres (include attached garage, exclude decks).

	Particleboard	Plywood	Strip timber (not overlay, exclude decks).	Concrete
Ground level	_____ Sq metres	_____ Sq metres	_____ Sq metres	_____ Sq metres
First level	_____ Sq metres	_____ Sq metres	_____ Sq metres	_____ Sq metres
2nd or more levels	_____ Sq metres	_____ Sq metres	_____ Sq metres	_____ Sq metres

Decks (above ground, not concrete patios) (circle one)

Includes a deck ? Yes / No (circle one or more)

Deck area_____Sq metres Deck surface material = radiata/ hardwood/ butyl/ tiles/ other/ pour-on.

Deck substrate = plywood sht/ fibre cement sht/ concrete/ timber joists.

Wall Framing (tick appropriate box)

Radiata ☐ Steel ☐ Douglas fir ☐ Concrete block ☐ Other ☐ (state) ……

Was the wall framing precut or prenailed ? Yes / No (circle one)

Framing timber treatment

	Untreated kiln dry	Untreated wet	H1.2	T1.2 (orange)	H3.1
Tick one or more	☐	☐	☐	☐	☐
State where used (eg outer walls, subfloor, etc)	……..….	……..….	……..….	……..….	……..….

Floor joists

	None	Solid timber	Posistrut	Hybeam (I beam)	Steel	Twinaplate	Origin (I beam)	Other (state)
Tick one or more	☐	☐	☐	☐	☐	☐	☐	☐
Joist depth mm	……..mm	……...mm	……..mm	……..mm	……...mm	……..mm	……..mm	

Insulation

(tick one or more)	R value of insulation	Pink Batts	Bradford Gold	Premier Fibreglass	Blown FG Rocwool	Greenstuf (polyester)	Other polyester	Treated paper	Wool	Other (state)
Wall insulation	R-	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ceiling insulation	R-	☐	☐	☐	☐	☐	☐	☐	☐	☐

		Expol Warmfeet	Polystyrene panel	Cosy Floor	Sisalation Foil	Other (state)	
Floor Insulation	R-	☐	☐	☐	☐	☐	……

Installer (name) ……

Noise Control (circle one)

Have you installed noise control products? Yes / No What type? ……

Building wraps

	Flamestop	Thermakraft	Bitumac	GIB underlay	Greencap	Pauloid	Black Paper	Other (state)
Roof wrap	☐	☐	☐	☐	☐	☐	☐	☐

(tick one or more)	Flamestop	Tyvek	Thermakraft coverup	Framegard II	Greenwrap	Fastwrap	Black Paper	Other (state)
Wall wrap	☐	☐	☐	☐	☐	☐	☐	☐

Wall cladding State type (and approx % wall coverage)

Type ..... % area..... eg fibre cement sheet, 75% also plywood, solid plaster(min 18mm),

Type ..... % area..... clay brick, 15% plaster on polystyrene, concrete

Type ..... % area..... cedar 10% block, PVC weatherboard, etc.

	Hardies	BGC	CSR	PRIMA	Other
If yes to Fibre Cement cladding what is the Manufacturer? (tick one or more)	☐	☐	☐	☐	☐

Fibre Cement Product 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

Roof cladding Type ..... (or circle one)

eg metal tiles, prepainted corrugated, other steel profiles, concrete tiles, butyl, asphalt shingles, fibreglass shingles, etc.

Wet wall linings (Tick one or more in each row)

	Formica Aquapanel	Seratone	Hardies Villaboard	Hardies Hardiglaze	Standard GIB	GIB Aqualine	Other	(state)
Bathroom	☐	☐	☐	☐	☐	☐	☐	…….
Laundry	☐	☐	☐	☐	☐	☐	☐	…….

Is fibre cement sheet flooring underlay used in the bathroom or laundry ? Yes/ No (circle one).

Energy efficiency Tick if any of the following are being installed:

Double glazing	Solar water heaters	Dual flush toilets	Energy efficient lights	Heat pump	Low flow showers	Built-in window vents
☐	☐	☐	☐	☐	☐	☐

Type of Builder How many houses or dwelling units does your company build per year (approx) . ……

Construction Delays

If you signed a contract with the owner now, how many weeks before on-site work would start? ……wks

Thank You. Please fold this form, and freepost it in the return envelope Oct-06

4.3 Survey Form October 2010

NEW DWELLING

Please give this form to the builder or designer to fill out for the building consent listed over the page.

Number of dwelling units ☐ in this consent. Contract value of work (incl sub-trades) $ ..... incl GST.

Floor areas Total floor area _____ Sq metres (include attached garage, exclude decks).

	Particleboard	Plywood	Strip timber (not overlay, exclude decks).	Concrete
Ground level	_____ Sq metres	_____ Sq metres	_____ Sq metres	_____ Sq metres
First level	_____ Sq metres	_____ Sq metres	_____ Sq metres	_____ Sq metres
2nd or more levels	_____ Sq metres	_____ Sq metres	_____ Sq metres	_____ Sq metres

Building Envelope Risk Score and Wind Zone

What is the risk score (enter score for EACH elevation) North ☐ West ☐ South ☐ East ☐

What is the wind zone (tick one box) Low ☐ Medium ☐ High ☐ Very High ☐

Wall Framing (tick appropriate box)

Radiata ☐ Steel ☐ Douglas fir ☐ Concrete block ☐ Solid wood ☐ Other ☐ (state) .....

Was the wall framing precut or prenailed ? Yes / No (circle one)

Stud size and spacing (tick one or more)

90x45 mm @600ctrs ☐ | 90x40 mm @600ctrs ☐ | 90x45 mm @400ctrs ☐ | 90x40 mm @400ctrs ☐ | 140x45 mm @600ctrs ☐ | 140x45 mm @400ctrs ☐ | Other (please state)_____ ☐ _____

Heating Systems Tick one or more

Heat pump ☐ | Wood/Pellet burner ☐ | Ducted central heating (Not including DVS or HRV) ☐ | Underfloor heating (waterpipe) ☐ | Underfloor heating (electric) ☐ | DVS/HRV ☐ | Gas ☐

Floor joists Tick one or more

None	Solid timber	Posistrut	Hyjoist	Steel	Twinaplate	Hyne (I beam)	lumberworX	Other (state)
☐	☐	☐	☐	☐	☐	☐	☐	☐
Joist depth ..... mm	..... mm	..... mm	..... mm	..... mm	..... mm	..... mm	..... mm	..... mm

Insulation (tick one or more)

	Insulation R value	Pink Batts	Bradford Gold	Premier Fibreglass	Blown FG Rocwool	Greenstuf (polyester)	Other polyester	Wool	Polystyrene	Other (state)
Wall insulation	R -	☐	☐	☐	☐	☐	☐	☐	☐	.....
Ceiling insulation	R -	☐	☐	☐	☐	☐	☐	☐	☐	.....

	Expol Warmfeet	Polystyrene (NOT polythene) Under slab	Snug Floor	Sisalation Foil	Ribraft Floor	Cupolex	Other (state)
Floor Insulation R -	☐	☐	☐	☐	☐	☐	☐ .....

Insulation Installer (name) *Please tick*..... Builder ☐ Other, please specify ☐ .....

Noise Control

Have you installed noise control products? **(circle one) Yes / No**

If so then what type? (Tick one or more boxes) Pink Batts Silencer ☐ | Gib Noiseline ☐ | Other Gib Products ☐ | Bradford Gold ☐ | Pink Batts ☐ | Polyester ☐ | Other Specify ☐

Building wraps

	Flamestop	Thermakraft	Bitumac	CoverTek	Pauloid	Black Paper	Other (state)	Diflex 130	Tekton
Roof wrap	☐	☐	☐	☐	☐	☐	☐	☐	☐

	Flamestop	Tyvek	Thermakraft	Framegard	Home RAB	Fastwrap	Black Paper	Other (state)	Diflex 130	Tekton
(tick one or more) Wall wrap	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

DPC

What DPC products have you installed? Damp-a-thene ☐ | Mathiod ☐ | Supercourse ☐ | Other, specify ☐

Flashing Tapes

What flashing tapes are installed? Weatherseal ☐ | Aluband ☐ | Tyvek Flexwrap ☐ | Protectowrap ☐ | Frameflash ☐ | Other, specify ☐

Wall cladding State type (and approx % wall coverage)

Type ..... % area..... eg fibre cement sheet, 75% also plywood, solid plaster(min 18mm),

Type ..... % area..... clay brick, 15% plaster on polystyrene, concrete

Type ..... % area..... cedar 10% block, PVC weatherboard, etc.

If Fibre Cement cladding is used, who is the Manufacturer? (tick one or more) Hardies ☐ | BGC ☐ | CSR ☐ | PRIMA ☐ | Other ☐ | Eterpan ☐

Fibre Cement Product used as (Circle one or more) Applied texture finish sheet, Flat sheet, Linea (16mm), FC plank (7.5mm)

If solid plaster, what backing? (circle one if solid plaster) fibre cement, plywood, paper, Triple S, block/brick, metal lathe

Roof cladding Type ..... (or circle one)

eg metal tiles, prepainted corrugated, other steel profiles, concrete tiles, butyl, asphalt shingles, fibreglass shingles, etc.

If roof is metal tiles, specify Manufacturer name.....

Is the Majority of the roof slope: (tick one) Greater/equal than 12 degrees ☐ | less than 12 degrees ☐ | Don't know ☐

Wet wall linings (Tick one or more in each row)

	Formica Aquapanel	Seratone	Villaboard	Hardies Hardiglaze	Standard GIB	GIB Aqualine	Other, *specify*	Timber	Horizon
Bathroom	☐	☐	☐	☐	☐	☐	☐	☐	☐
Laundry	☐	☐	☐	☐	☐	☐	☐	☐	☐

Is fibre cement sheet flooring underlay used in the bathroom or laundry ? Yes/ No (circle one).

Thank You. Please fold this form, and freepost it in the return envelope Oct-10

4.4 Survey Form August 2014

NEW DWELLING

Please give this form to the builder or designer to fill out for the building consent listed over the page.

Number of dwelling units in this consent ☐ Contract value of work (incl sub-trades) $..... Incl GST.

Was this dwelling designed by a registered architect? **Yes / No** (circle one)

Floor Areas and Ceiling Height Total Floor Area _____ Sq metres (include attached garage, exclude decks).

	Particleboard	Plywood	Strip timber (not overlay exclude decks)	Strandboard	Concrete	Height of level to ceiling
Ground level	_____ Sq m	_____ Sq m	_____ Sq m	_____ Sq m	_____ Sq m	_____ metres
First level	_____ Sq m	_____ Sq m	_____ Sq m	_____ Sq m	_____ Sq m	_____ metres
2nd or more levels	_____ Sq m	_____ Sq m	_____ Sq m	_____ Sq m	_____ Sq m	_____ metres

Wall Framing (tick appropriate box)

Radiata ☐ Steel ☐ Douglas Fir ☐ Concrete Block ☐ Solid Wood ☐ Other ☐ (state).....

Was the wall framing precut or prenailed? **Yes / No** (circle one)

How soon after being issued the consent will you have stood the house framing?

0-3 months ☐ 4-6 months ☐ 7-9 months ☐ 10-12 months ☐ Over 12 months ☐

Floor Joists (tick one or more)

None	Solid Timber	Posistrut	Hyjoist	Steel	Twinaplate	Hyne (I beam)	lumberworX	Other state
☐	☐	☐	☐	☐	☐	☐	☐	☐

Joist depth: ..... mm ..... mm ..... mm ..... mm ..... mm ..... mm ..... mm ..... mm

Insulation (tick one or more)

	Insulation R Value	Pink Batts	Bradford Gold	Premier	Knauf Earthwool	Autex Greenstuf	Other Polyester	Wool	Polystyrene	Other (state)
Wall insulation	R-	☐	☐	☐	☐	☐	☐	☐	☐	.....
Ceiling insulation	R-	☐	☐	☐	☐	☐	☐	☐	☐	.....

Is the floor insulated? (circle one) Yes / No If yes, what floor insulation was used?

		Expol	Polystyrene (not Polythene Under Slab	Pink Batts Snug Floor	Sisalation Foil	Waffle Pod Floor	Cupolex	Other (state)
Floor insulation	R-	☐	☐	☐	☐	☐	☐	.....

Insulation Installer (name) Builder ☐ **Other (please specify)** ☐ .....

Window Frames

What are the window frames made of? Thermally broken aluminium ☐ Aluminium ☐ PVC ☐ Timber ☐ Other ☐ (state) .....

What percentage of windows are double/triple glazed? _____ % area

Do the windows have low-e panes and/or Argon gas fill? (Circle one) Yes / No

Noise Control

Have you installed noise control products? **(cicle one) Yes / No** If so, then what type? (tick all that apply)

Pink Batts Silencer	GIB Noiseline	Other GIB Products	Bradford Gold	Pink Batts	Polyester
☐	☐	☐	☐	☐	☐

Other (please specify) .....

Building Wraps

	Flamestop	Thermakraft	Bitumac	CoverTek	Pauloid	Tyvek Supro	Other (state)	Watergate plus	Tekton
Roof Wrap	☐	☐	☐	☐	☐	☐	☐	☐	☐

(tick one or more)	Flamestop	Tyvek	Thermakraft	Coverup	Home RAB	Fastwrap	Other	Watergate	Tektor	Ecoply Barrier	Bitumac	Pauloid
Wall Wrap	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

DPC

What DPC products have you installed? Damp-a-thene ☐ Mathoid ☐ Supercourse ☐ Other, Specify: .....

Flashing Tapes

What flashing tapes are installed? Weatherseal ☐ Aluband ☐ Tyvek Flexwrap ☐ Protectowrap ☐ Flameflash ☐ Other, Specify: .....

Wall Cladding State type and approximate % wall coverage

e.g. Fibre cement sheet, 75%
Clay Brick, 15%
Cedar WB, 10%

Other examples include: plywood sheet, plaster on claybrick, steel zincalum, fibre cement plank, glazing, EIFS, aerote concrete panel, radiata WB, linea WB etc.

Type ..... % area .....
Type ..... % area .....
Type ..... % area .....

If Fibre Cement product, what is it used as? (circle one) Applied texture finish sheet, Flat sheet, Linea (16mm), FC plank (7.5mm)

Roof Cladding

What roof cladding was used? (circle one or state below)

metal tiles, corona shake, prepainted corrugated, trough zincalum, corrugated zincalum, other steel profiles, concrete tiles, asphalt shingles, butyl, other (state) .....

If roof is metal tiles, specify manufacturer name: .....

Is the majority of the roof slope: 3-7.9° ☐ 8-9.9° ☐ 10-11.9° ☐ 12°+ ☐ Don't Know ☐

Wet Wall Linings (tick one or more in each row)

	Formica Aquapanel	Seratone	Villaboard	Hardies Hardiglaze	Standard GIB	GIB Aqualine	WaterShield	Other specify	Timber	Horizon
Bathroom	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Laundry	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Has the shower been: Pre-Formed ☐ Built insitu ☐ Ceramic Tiled ☐

Wall Linings (excluding wet walls)

Elephant Plasterboard ☐ GIB Plasterboard ☐ Knauf Plasterboard ☐ Other (state) .....

Ceiling Linings and Battens

Ceiling Linings (tick one or more) 10mm plasterboard ☐ 13mm plasterboard ☐ Ultraline ☐ Tiles ☐ Other ☐

Ceiling Battens (circle one): timber or metal **Are there any downlights recessed in to ceiling? Yes / No** (circle one) **IF YES, how many ?** .....

Thank You. Please fold this form, and freepost it in the return envelope Aug-14