



Trends in the importation of building and construction products:

Exploratory analyses of the Overseas Merchandise Trade dataset

TECHNICAL REPORT
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**MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT**
HĪKINA WHAKATUTUKI

Te Kāwanatanga o Aotearoa
New Zealand Government



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1 Acronyms and definitions

TERM	DEFINITION
Cost including Insurance and Freight (CIF)	Value of imports including insurance and freight costs; this is the value declared by the importer to Customs (expressed in NZD)
Goods	In trade terms, goods measure physical items that are bought and sold (e.g. food or footwear)
Harmonized Commodity Description and Coding System (HS)	This is used internationally for classifying import or export commodities
HVAC	Heating, Ventilation and Air Conditioning
NZD	New Zealand Dollars. All monetary figures used in this report are in New Zealand Dollars.
Overseas Merchandise Trade (OMT) dataset	This measure provides information on the imports and exports of merchandise goods between New Zealand and other countries. This dataset is referred to in this report as 'OMT dataset' or simply, 'trade dataset'.
Services	In trade terms, services measure transactions where no physical product is traded (e.g. spending by international tourists, providing advice to overseas clients)
SME	Subject Matter Expert
Value for Duty (VFD)	Value of imports before the addition of insurance and freight costs (expressed in NZD)

2 Project Background

New Zealand is a trade-dependent country that has access to over 160 economies (with which it trades goods and services), and 12 Free Trade Agreements in force (to make trade more efficient and profitable).

A wide range of goods and services are imported into New Zealand, including vehicles, machinery, raw construction materials (such as iron and steel) and much more – each of which typically value at millions of dollars each month.

Data on these imports and exports (the Overseas Merchandise Trade (OMT) dataset) are recorded at the border by Customs NZ and are published by Stats NZ on a regular basis. This Dataset includes all imported and exported products that are coded via the worldwide Harmonized Commodity Description and Coding Systems (HS). The HS classifies all products into ‘chapters’ to help determine what type of products they are (such as foodstuffs, textiles, metals, and machinery).

There is a need for robust analytical evidence to monitor the products that are being imported to be used in New Zealand’s construction industry. EBOSS’ Construction Supply Chain Report 2021 reported that approximately 90 per cent of all construction products sold in New Zealand were imported either as a finished product or manufactured locally using imported components.

This exploratory research project will provide insights into the supply chain of building products imported into New Zealand. It makes use of the Overseas Merchandise Trade (OMT) dataset, covering the period from January 2015 to December 2021.

2.1 Purpose

The objectives of this project are to:

- explore the Overseas Merchandise Trade dataset to identify and categorise building and construction goods that are imported into New Zealand, and
- report on the importation trends of these goods.

2.2 Report structure

This report includes: an overview of the analytical approach taken (Section 3); results of the analyses of the trade data (Section 4); and a conclusion with brief discussion of key findings (Section 5).

This is an exploratory piece of analytical research. It is the first time that MBIE has analysed the OMT dataset, to look at trends of various building and construction products that are used (or predominantly used) in the construction industry. While it provides a general overview of the trends in the importation of construction goods, it is acknowledged that further work could be undertaken on this topic. The need for further research is emphasised throughout the report, particularly in the Discussion part (Section 5.1).

3 Method

3.1 Current harmonised coding system

The harmonised system code (HS code) is an internationally standardised two-, four-, six- or ten-digit code assigned to all import or export commodities. It is organised into different levels (i.e., 21 sections; 98 chapters; 1,244 headings and 5,224 subheadings), based on the type of product. For example, meat products are in chapter two, pharmaceutical products in chapter 30, wood products in chapter 44.

3.2 Harmonised coding system for building & construction goods

Currently, there is no category within the HS code's hierarchical ladder (whether it be section, chapter or heading), which specifies if an imported good is going to be used (or predominantly used) in the construction industry.

This is because building products in the construction industry come from a range of HS code chapters and headings. For example, construction machines are in chapter 84 (under 'machinery and mechanical appliances'), whereas cement comes under chapter 38 (under 'chemical products'). Please see the examples below, explaining the hierarchy of the HS coding system, as well as the wide range of HS codes that indicate building and construction products:

- a) 'Machinery and mechanical appliances' have a *chapter-level* HS code of **84**

Chapter **84** - Machinery and mechanical appliances _____ **84**
↑

- b) 'Refrigerators, freezers, or other; heat pumps other than air conditioning machines' have a *heading-level* HS code of **8418**

Chapter 84 – Machinery and mechanical appliance _____ **8418**
↑
Heading **18** – Refrigerators, freezers, or other;
heat pumps other than air conditioning machines _____ ↑

- c) 'Heat pumps' have a *subheading-level* HS code of **841861**

Chapter 84 - Machinery and mechanical appliances _____ **841861**
↑
Heading 18 - Refrigerators, freezers, or other;
heat pumps other than air conditioning machines _____ ↑
Subheading **61** - Heat pumps;
other than air conditioning machines _____ ↑

c) SME consultation

Subject matter experts were consulted to identify any other building products and/or additional products that were also critical components of construction.

3.5 Final building and construction product categories

Once the full list of keywords of building and construction products was put together (using the methods outlined in Section 3.4), Excel and R programme was used to search for building products with the search being limited to those key words.

This resulted in 123 headings (out of the total number of 1,244 product headings) which corresponded specifically to building and construction products and materials. The full list of building and construction-related HS codes is provided in Appendix A.

Table 1. Twenty building and construction product categories under which these 123 HS codes fit:

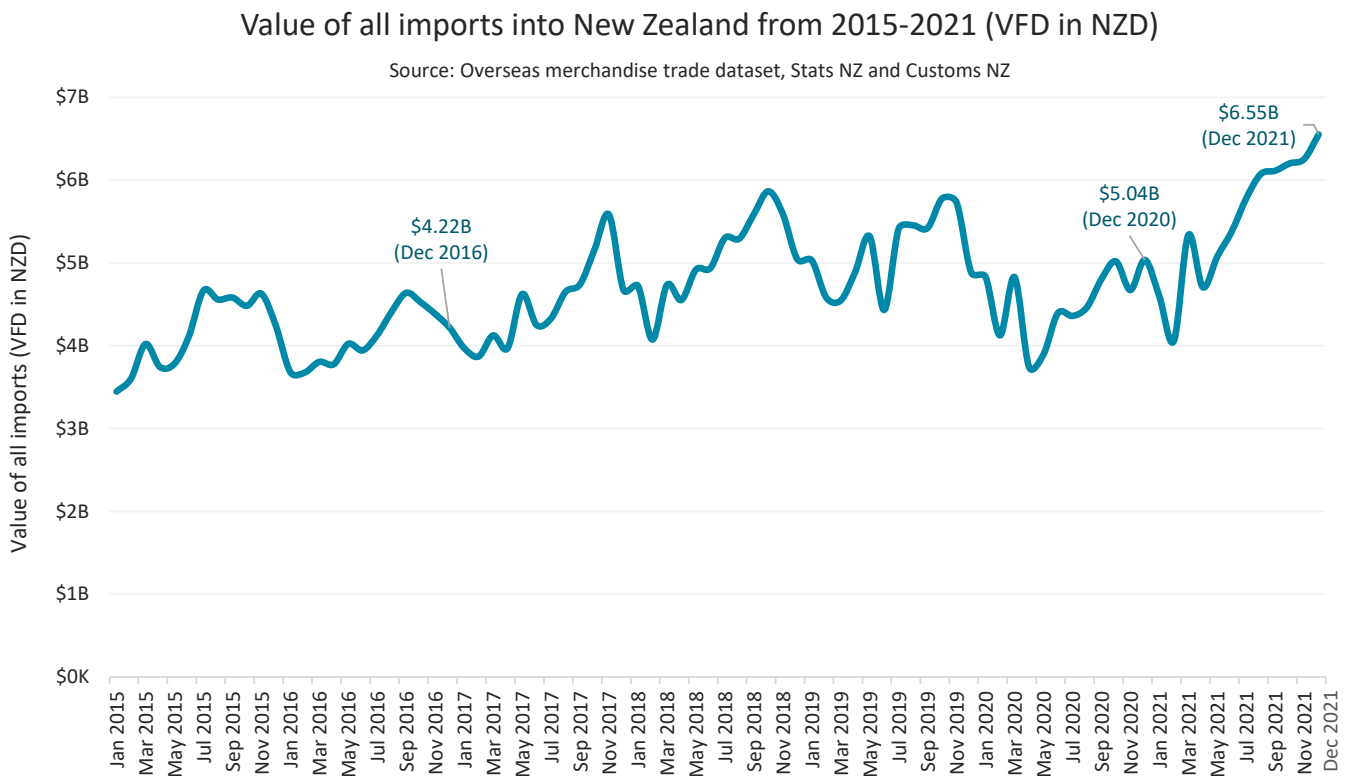
Building and construction product categories
1. Aluminium structures and products
2. Base metal products and fittings
3. Bitumen-based products
4. Building stone, earth stone, brick and similar products
5. Cement, plastering and similar materials
6. Ceramic products
7. Glass and glassware
8. HVAC products
9. Insulation products
10. Iron and steel structures and products
11. Luminaires, light fittings and fire alarms
12. Machine, machine tools and equipment for building and construction
13. Paints and varnishes, carpet, flooring
14. Plastic products and builders' ware of plastics
15. Prefabricated products, structures and buildings
16. Putty, mastics, adhesives, sealants and similar products
17. Sanitary ware, fixtures and plumbing
18. Wood and articles of wood
19. Multi-industry products
20. Other (including elevators, escalators, extractor fans, hot water boilers, security devices, etc).

4 Results

4.1 Overall trend in imports

The value of imports in New Zealand was at a record high in the month of December 2021, with more than \$6.5 billion worth of products imported in a single month. This was an increase of 30 per cent from December 2020 where the value of total imports was \$5 billion, and an increase of 55 per cent from December 2016 where the value of total imports was just over \$4.2 billion (see Figure 1 below).

Figure 1



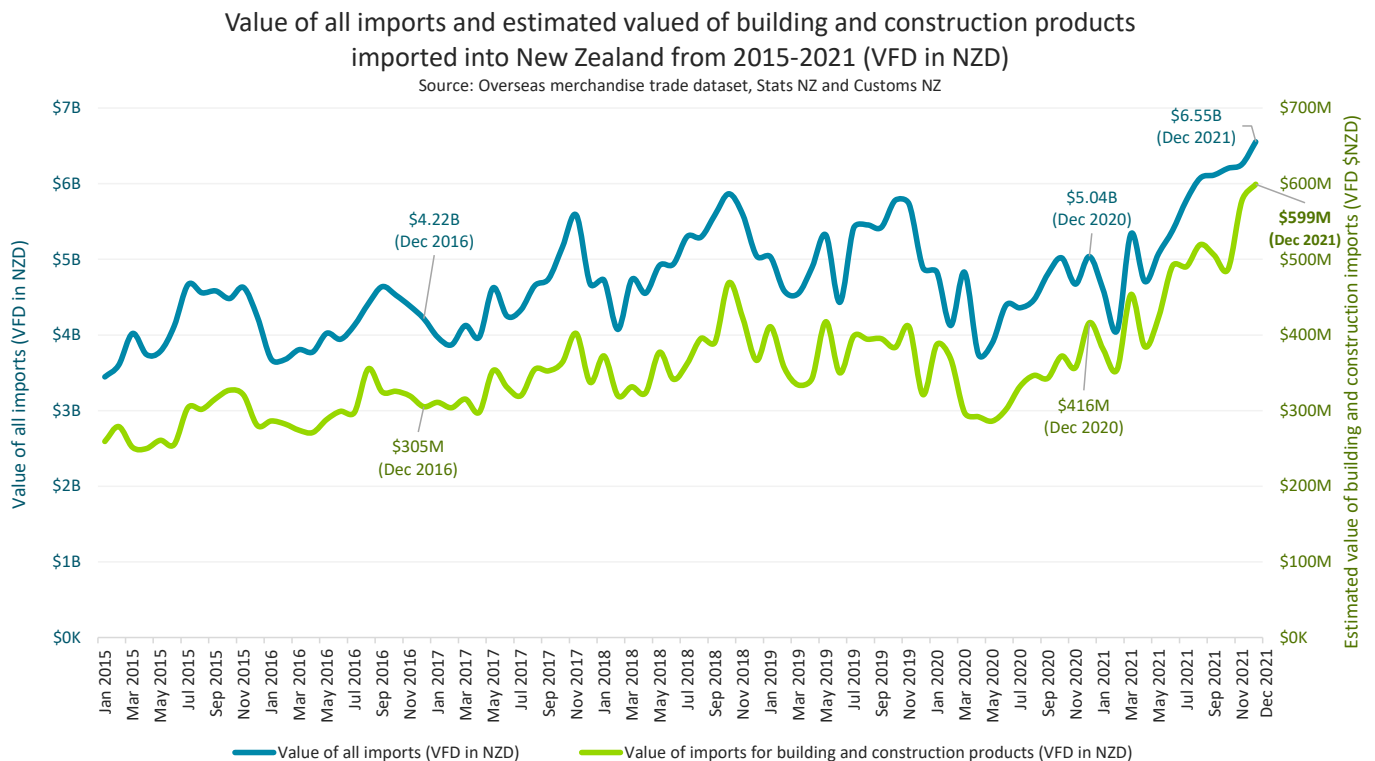
4.2 Overall trend in building and construction product imports

The estimated value of building and construction products imported into New Zealand were also at a record high late last year with nearly \$600 million worth of building and construction goods imported in December 2021 alone (see Figure 2 below). On average, the estimated value of imports for building and construction goods accounted for approximately 7 to 8 per cent of the total imports for each month.

Between 2015 to the start of 2020 (i.e., before the COVID-19 pandemic), there was a general increasing trend each year in the value of imports for building and construction goods. However, after the onset of the COVID-19 pandemic, the value of imports dropped below \$300 million per month between March 2020 to May 2020.

Since then, the value of these imported products has been rising at a relatively higher rate (compared to the pre-COVID-19 period), especially in the last 12 months (i.e., from April 2021 onwards).

Figure 2



Please note that the value of all imports and the value of imports for building and construction are on different scales, and therefore should be viewed and interpreted independently, using the relevant coloured axis. Specifically, the total value of imports is on the left, in blue and the estimated value of building and construction imports is on the right, in green.

4.3 Categories of building and construction products imported in 2021

As shown in the previous section, a record-high of nearly \$600 million worth of building and construction products were estimated to have been imported in December 2021 alone.

Looking at the year as a whole, an estimated \$5.67 billion worth of building and construction products were imported in the 2021 calendar year (see Table 2 below). Out of these, “iron or steel structures and products” accounted for over \$1.1 billion, and “machine, machine tools and equipment” accounted for \$880 million. The high imported values for these products could be attributed to the wide-ranging raw and finished goods that are in these product categories.

Future analyses of the OMT data could include more in-depth analyses of goods (i.e., at a 6-digit sub-heading HS level), so that trends in the volume and the unit of products can also be provided.

Table 2. Total estimated value of imports in 2021 across different building and construction product categories (Value for Duty in NZD)

Building and construction product type	Estimated import value in 2021 (VFD in NZD)
Iron or steel structures and products	\$1.1 billion
Machine, machine tools and equipment	\$880 million
Sanitary ware, fixtures and plumbing	\$522 million
Wood and articles of wood	\$487 million
HVAC products	\$373 million
Paints and varnishes, carpet and flooring	\$333 million
Luminaires, light fittings and fire alarms	\$291 million
Plastic products and builders' ware of plastics	\$290 million
Cement, plastering and similar materials	\$194 million
Base metal products and fittings	\$188 million
Putty, mastics, adhesives, sealants and similar products	\$101 million
Aluminium structures and products	\$83 million
Glass and glassware	\$77 million
Insulation products	\$73 million
Prefabricated products, structures and buildings	\$73 million
Building stone, earth stone, brick and similar products	\$61 million
Ceramic products	\$50 million
Bitumen-based products	\$16 million
<i>Multi-industry products (hand tools, nails, lead prods, aluminium rods/bars)</i>	<i>\$433 million</i>
<i>Other (incl. elevators, escalators, extractor fans, hot water boilers, security devices, etc)</i>	<i>\$31 million</i>
Total	\$ 5.67 billion

Source: Overseas merchandise trade dataset, Customs NZ and Stats NZ

4.3.1 Building and construction products imported over time

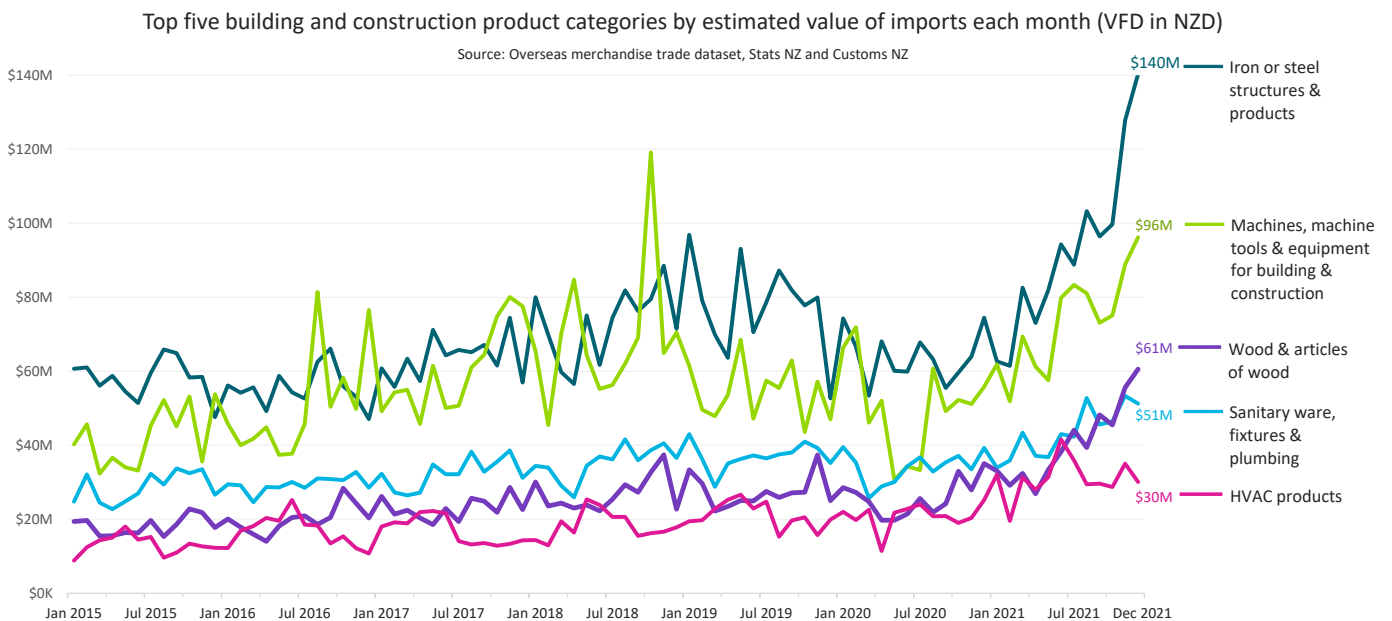
The 20 different categories of building and construction products were also analysed to see if the overall pattern seen above in Figure 2 was consistent across these products over time (i.e., the general increase in the value of imports over time, the negative impact of the COVID-19 pandemic, and signs of recovery post COVID-19).

Figure 3 shows the trends in the raw import value (Value for Duty in NZD) for the top five types of building and construction products. (Refer to Appendix B for the annual trend on the full 20 building and construction product categories.)

Out of all the different types of building and construction products, “iron or steel structures and products” and “machines, machine tools and equipment” made up a large proportion of the total value of all the building and construction products imported. The raw numbers show that \$140 million worth of iron or steel structures and products and \$96 million worth of machines, machine tools & equipment were imported in December 2021.

Despite the monthly fluctuations, there was a general increasing trend in the estimated value of imports from 2015 to 2020, followed by a dip in 2020, and an increase again in 2021.

Figure 3



4.3.2 12-month rolling total

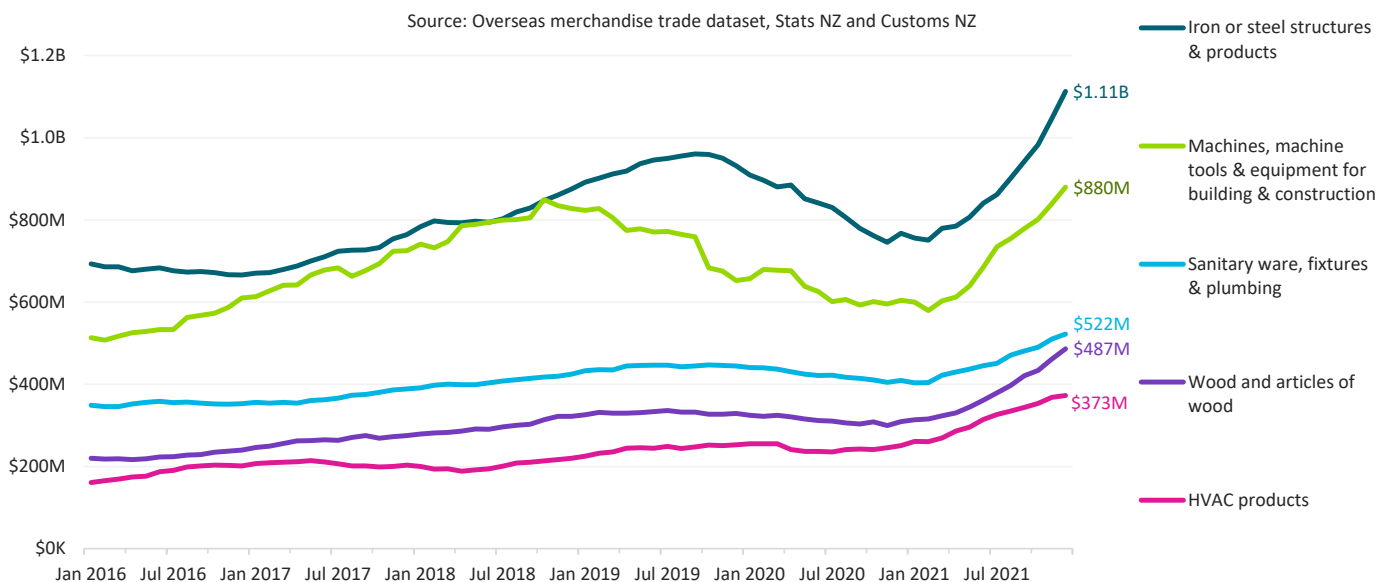
To get a better sense of the overall trend, and to remove the monthly fluctuation effects, analyses on the 12-month rolling total was completed.

Figure 4 shows that despite a decline in the value for imported iron or steel products in 2020, the value of these products increased at a much higher rate in 2021. Imports for capital products (i.e., machine, machine tools and equipment) were at a record high in October 2018 (equalling nearly \$120 million), and the imports for these products started to decrease following this peak.

Note that this decrease in the trend for “machine, machine tools & equipment” category started earlier compared to iron or steel products, and well before the COVID-19 pandemic. One of the reasons for this could be due to the spikes in the imports of capital products in the months prior where large quantities were imported (as seen in Figure 3). It is plausible that there was less of a need for continuous imports of heavy capital products as they are typically a one-off purchased product.

Figure 4

Top five building and construction product categories by estimated value of imports, 12-month rolling totals (VFD in NZD)



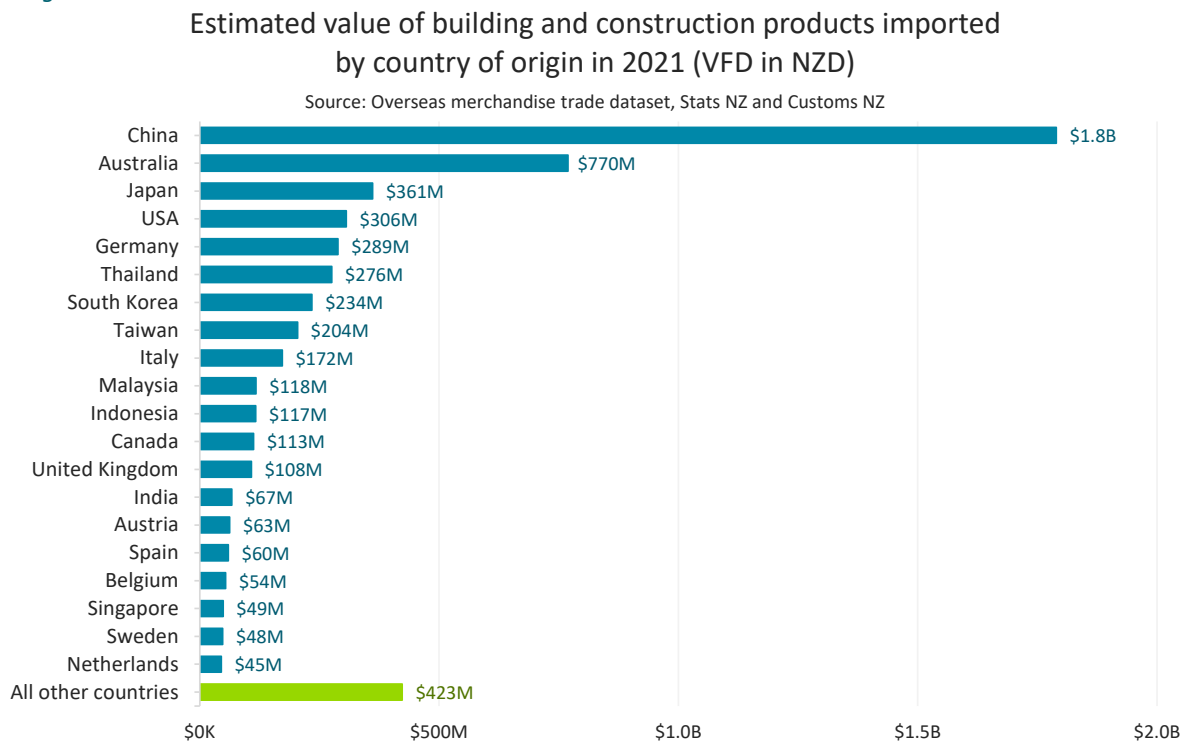
Some of the common products that are in the above categories include:

- **Iron or steel structures and products**
 - Iron or steel raw materials (e.g., bars, rods, flat rolled products, non-alloy steel)
 - Iron or steel structures, tubes, pipes & parts (e.g., roofs, couplings, elbow).
- **Machines, machine tools and equipment for building and construction**
 - Bulldozers, graders, excavators, shovel loaders, tower cranes, etc.
 - Machine tools for working stone, ceramics, concrete, asbestos-cement or like mineral materials.
- **Wood and articles of wood**
 - Flooring panels, carpentry of wood
 - Fibreboard, blockboard, oriented strand board (OSB), particle board, etc.

4.4 Imports of building and construction products by country of origin

According to the OMT dataset, most building and construction products were imported from China which accounted for \$1.8 billion in 2021. This was more than twice as much as the value of imports from Australia, which was the second highest country (where \$770 million worth of building and construction products were imported from).

Figure 5



4.5 Analyses of specific products of interest

During the consultation phase of the project with subject matter experts, it was suggested for additional analyses to be completed on specific products of interest which were:

- regularly mentioned in the news and media
- the subject of frequent queries from both internal and external stakeholders
- considered valuable for future analysis by building system colleagues at MBIE.

The products which were further analysed are outlined below in Table 3.

Table 3. Specific products of interest which were analysed further

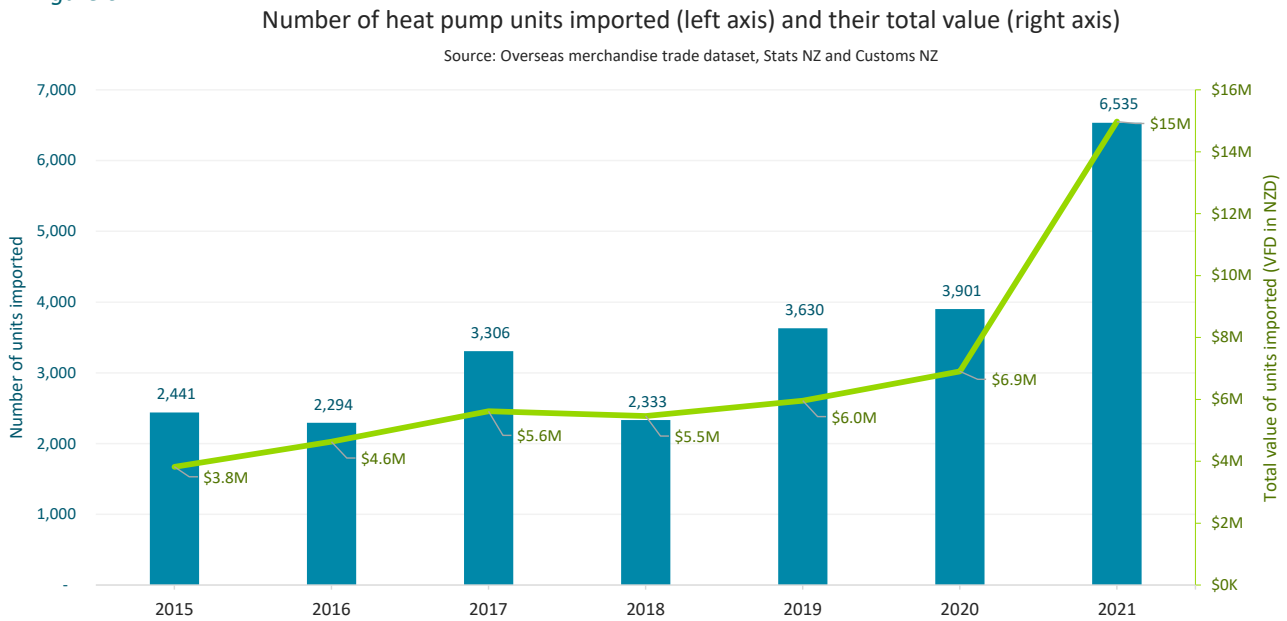
Products analysed individually	Individual HS code(s)	Category
1. Air conditioning units	8415	HVAC products
2. Heat pumps	841861	HVAC products
3. Fire alarms	8531100001	Luminaires, light fittings and fire alarms
4. Hot water boilers	8402, 8403	Other
5. Prefabricated buildings	9406, 7907000910	Prefabricated products, structures and buildings
6. Heavy construction machinery (<i>bulldozers, graders, levellers, scrapers, angledozers and more</i>)	8429, 8426	Machine, machine tools and equipment for building and construction
7. Plywood, veneered panels, and similar laminated wood	4412	Wood and articles of wood

4.5.1 Air conditioning units, heat pumps, fire alarms and hot water boilers

As seen in Table 2, the total estimated value of imports for HVAC products was \$373 million in 2021. A large proportion of this (\$358 million) was attributed to air conditioning units (refer to Table 4) and the remaining to heat pumps (refer to Figure 6).

Between 2015 and 2021, there was an increase in the number of heat pumps imported, and a subsequent increase in the total value of those imports (refer to Figure 6). At the same time, the average price of a single heat pump increased from \$1,500 in 2015 to almost \$2,300 on average for a single heat pump in 2021.

Figure 6



Imports for hot water boilers and air conditioning units were relatively high in 2021 compared to previous years, with almost \$28 million worth of hot water boilers and \$358 million worth of air conditioning units imported (refer to Table 4).

Imports for fire alarms was especially high in 2016 (totalling \$6.3 million), but overall had been gradually increasing between 2017 to 2021 (from \$1.8 million to \$3.4 million). These could be attributed to factors such as high building activity and increasing awareness of residential and commercial fire safety.

Table 4. Total estimated value of imports for fire alarms, hot water boilers and air conditioning units from 2015 - 2021 (Value for Duty in million NZD)

Year	Fire alarms (HS 8531)	Hot water boilers (HS 8402 & 8403)	Air conditioning units (HS 8415)
2015	\$1.5	\$12.4	\$153.8
2016	\$6.3	\$9.9	\$196.6
2017	\$1.8	\$12.2	\$197.9
2018	\$1.8	\$8.2	\$214.7
2019	\$2.3	\$11.0	\$247.0
2020	\$2.8	\$14.2	\$243.9
2021	\$3.4	\$27.8	\$357.9

4.5.2 Heavy construction machinery

Imports for heavy construction machinery (such as cranes, bulldozers, road rollers, graders, levellers, etc.) were not as affected by the COVID-19 pandemic (when compared to other building and construction products). As stated in section 4.3.2, the value of these capital building products started to decrease following a large spike in 2018 and continued to decrease further during 2019 and 2020. The imported value of these specific heavy construction machinery was at record high in 2021 (refer to Figure 7).

In 2021, the total estimated value of imports for all heavy construction machinery was \$771 million. This was an increase of \$264 million from the year before (or an increase of 52 per cent). This shows that while the overseas supply of these building products may have been affected by the pandemic, there are also encouraging signs of recovery. Overall, there was an increase of \$348 million (or 82 per cent) since 2015.

4.5.3 Plywood, veneered panels and similar laminated wood

The estimated value of imports for plywood, veneered panels and similar laminated wood products reached \$113 million in 2021. This was an increase of \$65 million (or 136 per cent) since 2015.

4.5.4 Prefabricated products

Similarly, imports for prefabricated products have also been consistently increasing over the last six years from \$19 million in 2015 to \$73 million in 2021 (an increase of 285 per cent between 2015 and 2021).

Figure 7

Estimated value of imports for plywood, veneered panels & laminated wood, heavy construction machinery and prefabricated construction products (VFD in NZD)

Source: Overseas merchandise trade dataset, Stats NZ and Customs NZ



5 Discussion and Conclusion

5.1 Limitations of product categorisation

As reported in Sections 4.4 and 4.5, text mining the OMT dataset resulted in 20 building and construction product categories. Under these 20 categories, 123 different product groups were identified, including a few individual products.

It is acknowledged, however, that some of the identified categories will have products which may not necessarily be used in the building and construction sector. For example, the heading 7016 which fits under the “glass and glassware” category contains goods such as safety glass (which are used in residential and commercial buildings), but also contain other forms of safety and laminated glass used outside of the construction industry (such as in vehicles, spacecraft or vessels).

Additionally, some of the identified products may also be used in other industries, and not just within the building and construction sector. For example, the heading 8204 contains hand operated spanners and wrenches, which are also used in other industries such as transport, aviation and defence. To address this, a “multi-industry product” was created when categorising the building and construction products, however, it is possible that there are still products which may not have been captured by this special category.

Any future improvements in how building and construction products are identified would further increase the robustness of the analyses.

5.2 Potential future research

One important outcome of this project was the identification and analysis of building and construction categories within the OMT dataset. This is an important outcome as it facilitates future analyses of the dataset, including the ability to conduct more in-depth analyses, to better understand where building supply chain issues may be, particularly in relation to the importation of specific building and construction products.

With that in mind, future research could include analyses of the 5,200 subheadings (rather than the 1,200 product headings), to ensure that only products that are predominantly destined to be used in the construction sector are included, and more multi-industry products are identified. Additionally, data on imported raw materials (which are used to manufacture building and construction products domestically) could also be included in the analyses.

5.3 Conclusion

The analyses outlined in this report showed that there had been a clear, overall increase in the value of imports for building and construction products since 2015. This could mainly be attributed to more goods being imported (in terms of quantity), but as also outlined in Section 4.5.1, the cost of these imported products has also increased.

Future analyses could aim to analyse the product data at a more granular unit level to determine how much of the import value increase (or decrease) is due to increases in imported quantity and cost of the products.

The value of imported building and construction products was lower than expected in 2020. The COVID-19 pandemic and the ensuing global shipping delays were the likely factors impacting on this. However, since then, the importation of building and construction products showed signs of recovery in 2021, with the value of imports increasing.

China and Australia were the two top countries that building and construction products were imported from. “Iron and steel” and “machine, machine tools and equipment” were the main building and construction raw materials and products that were imported.

The supply chain issues that New Zealand has been facing could potentially be attributed to not just the international supply, but also the supply of domestically manufactured products (e.g., plasterboard, GIB). Further analyses of the OMT dataset could help us develop a better understanding of these issues.

Appendix A: Twenty building and construction products and HS codes

Table 5. Twenty building and construction product categories with 4, 6 and 10-digit HS codes under those categories

Category	HS code	HS Code (description)
Aluminium structures & products	7610	<i>Aluminium structures (excluding prefabricated buildings of heading 94.06) and parts of structures</i>
Base metal products & fittings	8302	<i>Base metal mountings, fittings and similar articles suitable for furniture, doors, staircases, windows, blinds, coachwork, saddlery, trunks, chests, caskets</i>
Base metal products & fittings	8307	<i>Flexible tubing of base metal, with or without fittings</i>
Bitumen based products	2714	<i>Bitumen and asphalt, natural; bituminous or oil shale and tar sands; asphaltites and asphaltic rocks</i>
Bitumen based products	2715	<i>Bituminous mixtures based on natural asphalt, on natural bitumen, on petroleum bitumen, on mineral tar or on mineral tar pitch</i>
Building stone, earth stone, brick & similar products	2515	<i>Marble, travertine, ecaussine and other calcareous monumental or building stone of an apparent specific gravity of 2.5 or more</i>
Building stone, earth stone, brick & similar products	2516	<i>Granite, porphyry, basalt, sandstone and other monumental or building stone, whether or not roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular</i>
Building stone, earth stone, brick & similar products	2517	<i>Pebbles, gravel, broken or crushed stone, of a kind commonly used for concrete aggregates, for road metalling or for railway or other ballast, shingle and flint, whether or not heat-treated;</i>
Building stone, earth stone, brick & similar products	2521	<i>Limestone flux; limestone and other calcareous stone, of a kind used for the manufacture of lime or cement</i>
Building stone, earth stone, brick & similar products	6801	<i>Setts, curbstones and flagstones, of natural stone</i>
Building stone, earth stone, brick & similar products	6802	<i>Worked monumental or building stone (except slate) and articles thereof</i>
Building stone, earth stone, brick & similar products	6803	<i>Worked slate and articles of slate or of agglomerated slate</i>
Building stone, earth stone, brick & similar products	6815	<i>Articles of stone or of other mineral substances (including carbon fibres, articles of carbon fibres and articles of peat), not elsewhere specified or included</i>
Building stone, earth stone, brick & similar products	6901	<i>GOODS OF SILICEOUS FOSSIL MEALS OR OF SIMILAR SILICEOUS EARTHS, AND REFRACTORY GOODS. Bricks, blocks, tiles and other ceramic goods of siliceous fossil meals</i>
Cement, plastering and similar material	2523	<i>Portland cement, aluminous cement, slag cement, supersulphate cement and similar hydraulic cements</i>
Cement, plastering and similar material	3816	<i>Refractory cements, mortars, concretes and similar compositions</i>
Cement, plastering and similar material	6808	<i>Panels, boards, tiles, blocks and similar articles of vegetable fibre, of straw or of shavings, chips, particles, sawdust or other waste, of wood, agglomerated with cement, plaster or other mineral binders</i>
Cement, plastering and similar material	6809	<i>Articles of plaster or of compositions based on plaster</i>
Cement, plastering and similar material	6810	<i>Articles of cement, of concrete or of artificial stone, whether or not reinforced</i>

Cement, plastering and similar material	6811	<i>Articles of asbestos-cement, of cellulose fibre-cement or the like</i>
Cement, plastering and similar material	7401	<i>Copper mattes; cement copper (precipitated copper)</i>
Ceramic products	6902	<i>Refractory bricks, blocks, tiles and similar refractory ceramic constructional goods</i>
Ceramic products	6904	<i>OTHER CERAMIC PRODUCTS. Ceramic building bricks, flooring blocks, support or filler tiles and the like</i>
Ceramic products	6905	<i>Roofing tiles, chimney-pots, cowls, chimney liners, architectural ornaments and other ceramic constructional goods</i>
Ceramic products	6906	<i>Ceramic pipes, conduits, guttering and pipe fittings</i>
Glass and glassware	7007	<i>Safety glass, consisting of toughened (tempered) or laminated glass</i>
Glass and glassware	7016	<i>Paving blocks, slabs, bricks, squares, tiles and other articles of pressed or moulded glass, of a kind used for building or construction purposes</i>
HVAC products (Heating, Ventilation and Air Conditioning)	8415	<i>Air conditioning machines, comprising a motor-driven fan and elements for changing the temperature and humidity, including those machines in which the humidity cannot be separately regulated</i>
HVAC products (Heating, Ventilation and Air Conditioning)	841861	<i>Heat pumps; other than air conditioning machines</i>
Insulation products	6806	<i>Slag wool, rock wool and similar mineral wools; exfoliated vermiculite, expanded clays, foamed slag and similar expanded mineral materials</i>
Insulation products	7019	<i>Glass fibres (including glass wool) and articles thereof (for example, yarn, woven fabrics)</i>
Iron or steel structures & products	7208	<i>Flat-rolled products of iron or non-alloy steel, of a width of 600 mm or more, hot-rolled, not clad, plated or coated</i>
Iron or steel structures & products	7209	<i>Flat-rolled products of iron or non-alloy steel, of a width of 600 mm or more, cold-rolled (cold-reduced), not clad, plated or coated</i>
Iron or steel structures & products	7210	<i>Flat-rolled products of iron or non-alloy steel, of a width of 600 mm or more, clad, plated or coated</i>
Iron or steel structures & products	7211	<i>Flat-rolled products of iron or non-alloy steel, of a width of less than 600 mm, not clad, plated or coated</i>
Iron or steel structures & products	7212	<i>Flat-rolled products of iron or non-alloy steel, of a width of less than 600 mm, clad, plated or coated</i>
Iron or steel structures & products	7213	<i>Bars and rods, hot-rolled, in irregularly wound coils, of iron or non-alloy steel</i>
Iron or steel structures & products	7214	<i>Other bars and rods of iron or non-alloy steel, not further worked than forged, hot-rolled, hot-drawn or hot-extruded, but including those twisted after rolling</i>
Iron or steel structures & products	7215	<i>Other bars and rods of iron or non-alloy steel</i>
Iron or steel structures & products	7216	<i>Angles, shapes and sections of iron or non-alloy steel</i>
Iron or steel structures & products	7217	<i>Wire of iron or non-alloy steel</i>
Iron or steel structures & products	7221	<i>Bars and rods, hot-rolled, in irregularly wound coils, of stainless steel</i>
Iron or steel structures & products	7222	<i>Other bars and rods of stainless steel; angles, shapes and sections of stainless steel</i>
Iron or steel structures & products	7226	<i>Flat-rolled products of other alloy steel, of a width of less than 600 mm</i>
Iron or steel structures & products	7227	<i>Bars and rods, hot-rolled, in irregularly wound coils, of other alloy steel</i>
Iron or steel structures & products	7228	<i>Other bars and rods of other alloy steel; angles, shapes and sections, of other alloy steel</i>

Iron or steel structures & products	7301	<i>Sheet piling of iron or steel, whether or not drilled, punched or made from assembled elements</i>
Iron or steel structures & products	7302	<i>Railway or tramway track construction material of iron or steel</i>
Iron or steel structures & products	7303	<i>Tubes, pipes and hollow profiles, of cast iron</i>
Iron or steel structures & products	7304	<i>Tubes, pipes and hollow profiles, seamless, of iron (other than cast iron) or steel</i>
Iron or steel structures & products	7305	<i>Other tubes and pipes (for example, welded, riveted or similarly closed), having circular cross-sections, the external diameter of which exceeds 406.4 mm, of iron or steel</i>
Iron or steel structures & products	7306	<i>Other tubes, pipes and hollow profiles (for example, open seam or welded, riveted or similarly closed), of iron or steel</i>
Iron or steel structures & products	7307	<i>Tube or pipe fittings (for example, couplings, elbows, sleeves), of iron or steel</i>
Iron or steel structures & products	7308	<i>Structures and parts of structures (for example, bridges and bridge-sections, lock-gates, towers, lattice masts, roofs, roofing frameworks, doors and windows and their frames and thresholds for doors, shutters, balustrades, pillars and columns), of iron or steel</i>
Iron or steel structures & products	7312	<i>Stranded wire, ropes, cables, plaited bands, slings and the like, of iron or steel, not electrically insulated</i>
Iron or steel structures & products	7313	<i>Barbed wire of iron or steel</i>
Luminaires, light fittings and fire alarms	9405	<i>Lamps and lighting fittings including searchlights and spotlights and parts thereof</i>
Luminaires, light fittings and fire alarms	8531100001	<i>Signalling apparatus; electric sound or visual, fire alarm systems</i>
Machine, machine tools & equipment for building & construction	8426	<i>Ships' derricks; cranes, including cable cranes; mobile lifting frames, straddle carriers and works trucks fitted with a crane</i>
Machine, machine tools & equipment for building & construction	8429	<i>Self-propelled bulldozers, angledozers, graders, levellers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers:</i>
Machine, machine tools & equipment for building & construction	8457	<i>Machining centres, unit construction machines (single station) and multi-station transfer machines, for working metal</i>
Machine, machine tools & equipment for building & construction	8459	<i>Machine-tools (including way-type unit head machines) for drilling, boring, milling, threading or tapping by removing metal, other than lathes (including turning centres)</i>
Machine, machine tools & equipment for building & construction	8464	<i>Machine-tools for working stone, ceramics, concrete, asbestos-cement or like mineral materials or for cold working glass</i>
Machine, machine tools & equipment for building & construction	8465	<i>Machine-tools (including machines for nailing, stapling, glueing or otherwise assembling) for working wood, cork, bone, hard rubber, hard plastics or similar hard materials</i>
Multi-industry products (hand tools, nails, lead prods, aluminium rods/bars)	7317	<i>Nails, tacks, drawing pins, corrugated nails, staples (other than those of heading 83.05) and similar articles, of iron or steel</i>
Multi-industry products (hand tools, nails, lead prods, aluminium rods/bars)	7318	<i>Screws, bolts, nuts, coach screws, screw hooks, rivets, cotters, cotter-pins, washers (including spring washers) and similar articles, of iron or steel</i>
Multi-industry products (hand tools, nails, lead prods, aluminium rods/bars)	7415	<i>Nails, tacks, drawing pins, staples and similar articles, of copper or of iron or steel with heads of copper; screws, bolts, nuts, screw hooks, rivets, cotters, cotter-pins, washers including spring washers</i>

Multi-industry products (hand tools, nails, lead prods, aluminium rods/bars)	7604	<i>Aluminium bars, rods and profiles</i>
Multi-industry products (hand tools, nails, lead prods, aluminium rods/bars)	7608	<i>Aluminium tubes and pipes</i>
Multi-industry products (hand tools, nails, lead prods, aluminium rods/bars)	7609	<i>Aluminium tube or pipe fittings (for example, couplings, elbows, sleeves)</i>
Multi-industry products (hand tools, nails, lead prods, aluminium rods/bars)	7804	<i>Lead; plates, sheets, strip and foil, lead powders and flakes</i>
Multi-industry products (hand tools, nails, lead prods, aluminium rods/bars)	7806	<i>Lead; articles n.e.c. in chapter 78</i>
Multi-industry products (hand tools, nails, lead prods, aluminium rods/bars)	8201	<i>Hand tools, the following: spades, shovels, mattocks, picks, hoes, forks and rakes; axes, bill hooks and similar hewing tools</i>
Multi-industry products (hand tools, nails, lead prods, aluminium rods/bars)	8204	<i>Hand-operated spanners and wrenches (including torque meter wrenches but not including tap wrenches); interchangeable spanner sockets, with or without handles</i>
Multi-industry products (hand tools, nails, lead prods, aluminium rods/bars)	8205	<i>Hand tools (including glaziers' diamonds)</i>
Other (incl. elevators, escalators, extractor fans, hot water boilers, security devices etc.)	8402	<i>Steam or other vapour generating boilers</i>
Other (incl. elevators, escalators, extractor fans, hot water boilers, security devices etc.)	8403	<i>Central heating boilers</i>
Other (incl. elevators, escalators, extractor fans, hot water boilers, security devices etc.)	8428200000	<i>Elevators and conveyors; pneumatic</i>
Other (incl. elevators, escalators, extractor fans, hot water boilers, security devices etc.)	8428400000	<i>Escalators and moving walkways</i>
Paints & varnishes, carpet & flooring	3208	<i>Paints and varnishes (including enamels and lacquers) based on synthetic polymers or chemically modified natural polymers, dispersed or dissolved in a non-aqueous medium</i>
Paints & varnishes, carpet & flooring	3209	<i>Paints and varnishes (including enamels and lacquers) based on synthetic polymers or chemically modified natural polymers, dispersed or dissolved in an aqueous medium</i>
Paints & varnishes, carpet & flooring	3210	<i>Other paints and varnishes (including enamels, lacquers and distempers)</i>
Paints & varnishes, carpet & flooring	5701	<i>Carpets and other textile floor coverings, knotted, whether or not made up</i>
Paints & varnishes, carpet & flooring	5702	<i>Carpets and other textile floor coverings, woven, not tufted or flocked</i>
Paints & varnishes, carpet & flooring	5703	<i>Carpets and other textile floor coverings, tufted, whether or not made up</i>
Paints & varnishes, carpet & flooring	5704	<i>Carpets and other textile floor coverings, of felt, not tufted or flocked, whether or not made up:(8)</i>
Paints & varnishes, carpet & flooring	5705	<i>Other carpets and other textile floor coverings, whether or not made up</i>

Paints & varnishes, carpet & flooring	4008110100	<i>Rubber; vulcanised (other than hard rubber), flooring mats (rectangular), of cellular rubber</i>
Paints & varnishes, carpet & flooring	4008110900	<i>Rubber; vulcanised (other than hard rubber), flooring underlay, of cellular rubber, in plates, sheets and strip</i>
Paints & varnishes, carpet & flooring	4008111900	<i>Rubber; vulcanised (other than hard rubber), of cellular rubber, flooring (other than mats and underlay), in plates, sheets and strip</i>
Paints & varnishes, carpet & flooring	4008210100	<i>Rubber; vulcanised (other than hard rubber), flooring mats (rectangular) of non-cellular rubber, made by cutting from the piece</i>
Paints & varnishes, carpet & flooring	4008210900	<i>Rubber; vulcanised (other than hard rubber), flooring, (other than rectangular mats, made by cutting from the piece), of non-cellular rubber, in plates, sheets and strip</i>
Plastic products & builders' ware of plastics	3917	<i>Tubes, pipes and hoses, and fittings therefor (for example, joints, elbows, flanges), of plastics</i>
Plastic products & builders' ware of plastics	3918	<i>Floor coverings of plastics, whether or not self-adhesive, in rolls or in the form of tiles; wall or ceiling coverings of plastics, as defined in note 9 to this chapter</i>
Plastic products & builders' ware of plastics	3925	<i>Builders' ware of plastics, not elsewhere specified or included</i>
Prefabricated products, structures and buildings	9406	<i>Prefabricated buildings</i>
Prefabricated products, structures and buildings	7907000910	<i>Zinc; gutters, roof capping, skylight frames and other fabricated building components</i>
Putty, mastics, adhesives, sealants & similar products	3214	<i>Glaziers' putty, grafting putty, resin cements, caulking compounds and other mastics; painters' fillings; non-refractory surfacing preparations for facades, indoor walls, floors, ceilings or the like:(6)</i>
Putty, mastics, adhesives, sealants & similar products	3910	<i>Silicones in primary forms</i>
Putty, mastics, adhesives, sealants & similar products	3910000100	<i>Silicones; in primary forms, blocks of irregular shape, lumps, powders (including moulding powders), granules, flakes and similar bulk forms</i>
Putty, mastics, adhesives, sealants & similar products	3910000902	<i>Silicones; in primary forms, (other than those of item no. 3910.00.01), in aerosol containers, containing chlorofluorocarbons</i>
Putty, mastics, adhesives, sealants & similar products	3910000908	<i>Silicones; in primary forms, (other than those of item no. 3910.00.01), in aerosol containers, not containing chlorofluorocarbons</i>
Putty, mastics, adhesives, sealants & similar products	3910000919	<i>Silicones; in primary forms, (other than those in item no. 3910.00.01), not in aerosol containers</i>
Putty, mastics, adhesives, sealants & similar products	350699	<i>Glues and other adhesives; prepared, n.e.c. in heading no. 3506, not exceeding a net weight of 1kg</i>
Sanitary ware, fixtures & plumbing	3922	<i>Baths, shower-baths, sinks, wash-basins, bidets, lavatory pans, seats and covers, flushing cisterns and similar sanitary ware, of plastics</i>
Sanitary ware, fixtures & plumbing	6910	<i>Ceramic sinks, wash basins, wash basin pedestals, baths, bidets, water closet pans, flushing cisterns, urinals and similar sanitary fixtures</i>
Sanitary ware, fixtures & plumbing	6912	<i>Ceramic tableware, kitchenware, other household articles and toilet articles, other than of porcelain or china</i>
Sanitary ware, fixtures & plumbing	7324	<i>Sanitary ware and parts thereof, of iron or steel</i>

Sanitary ware, fixtures & plumbing	7418	<i>Table, kitchen or other household articles and parts thereof, of copper; pot scourers and scouring or polishing pads, gloves and the like, of copper; sanitary ware and parts thereof, of copper</i>
Sanitary ware, fixtures & plumbing	7615	<i>Table, kitchen or other household articles and parts thereof, of aluminium; pot scourers and scouring or polishing pads, gloves and the like, of aluminium; sanitary ware and parts thereof, of aluminium</i>
Sanitary ware, fixtures & plumbing	8481	<i>Taps, cocks, valves and similar appliances for pipes, boiler shells, tanks, vats or the like</i>
Wood and articles of wood	4403	<i>Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared</i>
Wood and articles of wood	4404	<i>Hoopwood; split poles; piles, pickets and stakes of wood, pointed but not sawn lengthwise; wooden sticks, roughly trimmed but not turned, bent or otherwise worked</i>
Wood and articles of wood	4405	<i>Wood wool; wood flour</i>
Wood and articles of wood	4406	<i>Railway or tramway sleepers (cross-ties) of wood</i>
Wood and articles of wood	4407	<i>Wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6mm</i>
Wood and articles of wood	4408	<i>Sheets for veneering (including those obtained by slicing laminated wood), for plywood or for similar laminated wood and other wood</i>
Wood and articles of wood	4409	<i>Wood (including strips and friezes for parquet flooring, not assembled)</i>
Wood and articles of wood	4410	<i>Particle board, oriented strand board (OSB) and similar board (for e.g. waferboard) of wood or other ligneous materials</i>
Wood and articles of wood	4411	<i>Fibreboard of wood or other ligneous materials</i>
Wood and articles of wood	4412	<i>Plywood, veneered panels and similar laminated wood</i>
Wood and articles of wood	4413	<i>Densified wood, in blocks, plates, strips or profile shapes</i>
Wood and articles of wood	4418	<i>Builders' joinery and carpentry of wood</i>

Appendix B: Value of all building and construction products by year

Table 6. Estimated import value of building and construction goods each year by different categories (Value for Duty in NZD)

Product Category	2015	2016	2017	2018	2019	2020	2021
Aluminium structures & products	\$ 34.6	\$ 49.1	\$ 52.0	\$ 57.1	\$ 61.6	\$ 61.0	\$ 82.5
Base metal products & fittings	\$ 114.4	\$ 130.9	\$ 130.3	\$ 144.3	\$ 151.1	\$ 142.2	\$ 188.5
Bitumen based products	\$ 13.8	\$ 11.0	\$ 17.1	\$ 19.7	\$ 5.4	\$ 23.2	\$ 15.7
Building stone, earth stone, brick & similar products	\$ 53.3	\$ 59.6	\$ 62.3	\$ 63.5	\$ 74.2	\$ 52.8	\$ 61.0
Cement, plastering and similar material	\$ 62.9	\$ 62.8	\$ 71.2	\$ 90.0	\$ 101.8	\$ 115.1	\$ 194.0
Ceramic products	\$ 28.1	\$ 42.5	\$ 37.6	\$ 44.2	\$ 44.6	\$ 51.3	\$ 49.7
Glass and glassware	\$ 47.5	\$ 48.4	\$ 53.0	\$ 62.0	\$ 76.8	\$ 61.4	\$ 77.1
HVAC products (Heating, Ventilation and Air Conditioning)	\$ 157.7	\$ 201.2	\$ 203.5	\$ 220.2	\$ 252.9	\$ 250.8	\$ 372.9
Insulation products	\$ 48.2	\$ 52.0	\$ 55.0	\$ 58.6	\$ 66.9	\$ 58.1	\$ 73.3
Iron or steel structures & products	\$ 697.4	\$ 665.8	\$ 763.9	\$ 875.2	\$ 931.6	\$ 767.2	\$1,112.4
Luminaires, light fittings and fire alarms	\$ 243.2	\$ 269.5	\$ 274.1	\$ 304.6	\$ 291.1	\$ 240.8	\$ 290.9
Machine, machine tools & equipment for building & construction	\$ 507.6	\$ 609.9	\$ 724.7	\$ 827.3	\$ 652.2	\$ 604.1	\$ 879.6
Paints & varnishes, carpet & flooring	\$ 223.8	\$ 236.5	\$ 241.9	\$ 250.6	\$ 276.7	\$ 258.7	\$ 333.0
Plastic products & builders' ware of plastics	\$ 225.8	\$ 212.4	\$ 240.2	\$ 221.4	\$ 232.6	\$ 217.5	\$ 289.7
Prefabricated products, structures and buildings	\$ 18.9	\$ 22.4	\$ 38.4	\$ 38.4	\$ 56.0	\$ 52.4	\$ 72.6
Putty, mastics, adhesives, sealants & similar products	\$ 67.7	\$ 74.9	\$ 85.5	\$ 93.5	\$ 98.3	\$ 87.0	\$ 101.1
Sanitary ware, fixtures & plumbing	\$ 344.1	\$ 353.1	\$ 388.9	\$ 424.6	\$ 444.4	\$ 409.1	\$ 522.1
Wood and articles of wood	\$ 219.0	\$ 239.9	\$ 275.1	\$ 322.2	\$ 329.2	\$ 309.4	\$ 486.5
Multi-industry products	\$ 265.2	\$ 274.0	\$ 309.4	\$ 340.3	\$ 349.4	\$ 319.8	\$ 432.9
Other	\$ 30.5	\$ 11.8	\$ 16.2	\$ 13.1	\$ 16.9	\$ 16.6	\$ 30.6
Total	\$3,403.7	\$3,627.7	\$4,040.5	\$4,470.6	\$4,513.7	\$4,098.5	\$5,666.2

Source: Overseas merchandise trade dataset, Customs NZ and Stats NZ

Appendix C: Webpages scanned

Table 7. Webpages scanned to help search for the names of frequently used building and construction products

https://www.beehive.govt.nz/release/import-tariffs-building-materials-lifted-1-july
https://www.houzz.co.nz/magazine/going-green-the-7-best-eco-friendly-building-materials-stsetivw-vs~92040968
https://www.christchurch.build7.co.nz/post/sustainable-building-in-new-zealand
https://en.wikipedia.org/wiki/List_of_building_materials
https://www.ribaj.com/intelligence/material-concerns-in-a-post-brexit-world-market-analysis
https://www.cato.org/blog/how-us-trade-policy-contributes-our-insane-construction-materials-costs
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/776136/19-cs2 - _Construction Building Materials - Commentary January 2019.pdf
