Notice seeking clearance for the merger of USG Corporation and Gebr. Knauf KG

PUBLIC VERSION:
Confidential information redacted

20 December 2018

SECTION 66 COMMERCE ACT 1986: NOTICE SEEKING CLEARANCE FOR BUSINESS ACQUISITION

20 December 2018

The Registrar
Competition Branch
Commerce Commission
PO Box 2351
WELLINGTON
New Zealand

Pursuant to section 66(1) of the Commerce Act 1986, notice is hereby given seeking clearance of a proposed business acquisition in which Gebr. Knauf KG (***Knauf***), through its wholly owned subsidiary World Cup Acquisition Corporation (***World Cup***), intends to execute a merger with USG Corporation (***USG***) (***the Merger***).

PART 1: APPLICANTS' DETAILS

Applicants for clearance

1 This notice seeking clearance is given jointly by Knauf and USG. Contact details for Knauf and USG are set out below.

Knauf
Business address: Am Bahnhof 7, D-97346 Iphofen
Website: www.knauf.com
Contact person: Mr Jörg Schanow, General Counsel, Gebr. Knauf KG

USG
Business address: 550 West Adams Street, Chicago IL 60661-3676
Website: www.usg.com
Contact person: Michelle Warner, General Counsel, USG Corporation

2 All correspondence and notices in respect of this application should be directed in the first instance to:

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3 All correspondence and notices in respect of this application should be copied to:

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PART 2: TRANSACTION DETAILS

The proposed transaction

What is to be acquired?

4 On 10 June 2018, Knauf, World Cup and USG entered into an Agreement and Plan of Merger (***the Merger Agreement***), pursuant to which, at the closing of the Merger, World Cup will be merged with and into USG in accordance with Section 251 of the Delaware General Corporation Law. USG will continue as the surviving corporation in the Merger and an indirect, wholly-owned subsidiary of Knauf. For further details, see:

4.1 **Appendix 1:** Agreement and Plan of Merger;

4.2 **Appendix 2:** Company disclosure letter to Agreement and Plan of Merger;

4.3 **Appendix 3:** Parent disclosure letter to Agreement and Plan of Merger.

5 The result in New Zealand will be that Knauf through its ownership of USG may hold an interest in the USG Boral joint venture (***USG Boral***), which is owned 50/50 by USG (to be the Knauf portion) and Boral Limited (***Boral***). Further details on USG Boral are available in the USG Boral Joint Venture Agreement, provided (on a confidential basis) at **Appendix 15**.

Transaction structure

6 Upon completion of the Merger, each of the outstanding shares of USG common stock (other than shares held by Knauf and its subsidiaries, USG and its subsidiaries and excluded holders) will be converted automatically into the right to receive the closing consideration of US$43.50 in cash, without interest and subject to tax withholding as applicable (***the Closing Consideration***). In addition to the Closing Consideration, as contemplated in the Merger Agreement, USG declared a special cash dividend to its stockholders (including Knauf) of US$0.50 per share of USG common stock, which was conditioned upon the adoption of the Merger Agreement by USG's stockholders and paid following certification of the results of the special meeting held for the purpose of USG's stockholders adopting the Merger Agreement.

Transaction Process

7 The adoption of the Merger Agreement by USG's stockholders is a condition to the closing of the Merger. The affirmative vote of holders of at least 80% of the outstanding shares of USG's common stock entitled to vote at a special meeting of USG's stockholders was required and met on 26 September 2018. In connection with seeking approval of the adoption of the Merger Agreement, USG prepared a detailed proxy statement containing information regarding the Merger. This includes, among other things, the history of discussions between the parties, the factors USG's board of directors considered in deciding to approve the Merger, a summary of USG's investment banker's fairness opinion to the USG board of directors, and a summary of the Merger Agreement.

8 USG filed the proxy statement with the US Securities and Exchange Commission (***the SEC***) for its review and comment on 20 July 2018. The SEC staff had ten days from the date of USG filing its preliminary proxy statement to notify USG if the SEC intended to comment on the preliminary proxy statement. As USG did not receive any such notification, it was able to, and did, mail the definitive version of the proxy statement to its stockholders for solicitation of votes in favour of adopting the Merger Agreement.

9 In addition to obtaining stockholder adoption of the Merger Agreement, the other material conditions precedent to completion of the Merger are antitrust and foreign investment approvals. The Merger Agreement provided for an initial outside date of 1 January 2019, which, in accordance with the terms and conditions of the Merger Agreement, has now been automatically extended to 1 September 2019 for obtaining any and all approvals, authorizations, clearances, consents or exemption under applicable competition laws and foreign investment laws. After the regulatory approvals are obtained, it is expected that the Merger will be completed within a few days.

10 After satisfaction or waiver of all conditions precedent to the closing of the Merger, the Merger will become effective upon the filing by the parties of a certificate of merger with the US state of Delaware Secretary of State. At the effective time of the closing of the Merger, Knauf will deposit cash in US dollars sufficient to pay the Closing Consideration with a third party paying agent, which will distribute the Closing Consideration to USG's stockholders.

Notification of the Proposed Transaction

11 In addition to New Zealand, the Merger has been (or will be) notified in Australia, China, Mexico, Singapore, Uruguay, USA and Vietnam.

12 Knauf International GmbH, a wholly-owned subsidiary of Knauf, is in the process of acquiring from Armstrong World Industries, Inc. (***AWI***) sole control over AWI's modular suspended ceilings business – which is the only product directly relevant to this application – in the EMEA and APAC region. The Merger includes designated subsidiaries of AWI's 50/50 joint venture with Worthington Industries (***WAVE***) with operations in EMEA and APAC. The AWI transaction forms part of a multi-jurisdictional transaction in involving the businesses of AWI.

13 [REDACTED]. The transaction required regulatory approvals only in Europe. All approvals have now been granted, subject to conditions.

Commercial rationale for the Proposed Transaction

14 [REDACTED]

15 [REDACTED]

Relevant industry associations

16 AWCI (Association of Wall and Ceiling Industries New Zealand Inc.) is a trade association which represents the interests of building professionals and organisations operating in the wall and ceiling industries. Details of the activities of this organisation can be found at awci.org.nz.

PART 3: BUSINESS ACTIVITIES

Knauf's global business activities

17 Knauf operates in the building materials supply industry. Through various business units it manufactures a range of products, including:

17.1 gypsum board;

17.2 cement board;

17.3 plasters;

17.4 modular suspended ceilings; and

17.5 fixed suspended ceilings.

18 See the product descriptions in **Appendix 4 and Appendix 5** for further details.

USG's global business activities

19 USG is a Delaware corporation and the ultimate parent of the USG group of companies (***the USG Group***). USG's shares trade on the New York Stock Exchange and the Chicago Stock Exchange. USG is headquartered in the United States and is a manufacturer and supplier of plasterboard, acoustical ceiling tiles and related products. Further information on USG can be found at www.usg.com.

20 Similarly to Knauf, USG manufactures:

20.1 gypsum board;

20.2 cement board;

20.3 plasters;

20.4 modular suspended ceilings; and

20.5 fixed suspended ceilings.

21 See the product descriptions in **Appendix 4 and Appendix 5** for further details.

Knauf's New Zealand business activities

22 Knauf's primary business in New Zealand is the supply of modular suspended ceiling tiles through Knauf AMF. In addition to tiles:

22.1 Knauf AMF does not typically supply modular suspended ceiling grid into New Zealand, but did sell a small amount [REDACTED] in 2017; and

22.2 Knauf AMF also supplies small quantities of other commodity products for use in relation to modular suspended ceilings to New Zealand from time to time, including:

(a) baffles, rafts and absorbers, which are hung to absorb sound and reduce echoes in a room. These are highly project specific and Knauf AMF supplies very few; and

(b) other commodities for ceiling installation such as inspection flaps, glue and suspending brackets.

Sales for these other commodity products are as follows:

[REDACTED]

23 Knauf AMF only supplies to New Zealand through its sole distributor, Potter Interior Systems (***Potters***) [REDACTED].

24 Knauf Plasterboard (a separate business to Knauf AMF) also supplied:

24.1 a small amount of gypsum used for fixed ceilings in New Zealand [REDACTED] until 2015. Since then it has only supplied negligible quantities,[1] also [REDACTED]; and

24.2 [REDACTED].

25 Knauf also operates its Knauf insulation business in New Zealand, which is entirely distinct from USG Boral's business activities and so not covered further in this application.

26 [REDACTED]

27 AWI (soon to be acquired by Knauf in the AWI transaction) supplies ceiling and wall products in New Zealand through its distributor Formans.

USG Boral's New Zealand business activities

28 In New Zealand, USG is active only through its 50% share in USG Boral. Its business activities in New Zealand are detailed on its website (https://www.usgboral.com/en_nz/products.html), and include:

28.1 SHEETROCK® plasterboard[2];

28.2 technical plasterboards;

28.3 ceiling panels and tiles (mineral tiles and plasterboard tiles)[3];

28.4 steel framing;

28.5 metal ceilings[4];

28.6 compounds[5];

[1] [REDACTED]

[2] https://www.usgboral.com/en_nz/products/interior-linings.html

[3] https://www.usgboral.com/en_nz/products/ceilings/acoustic-panels-and-ceiling-tiles.html

[4] https://www.usgboral.com/en_nz/products/ceilings/integrated-systems.html

[5] https://www.usgboral.com/en_nz/products/finishes-compounds/jointing-compounds.html

28.7 cornice;

28.8 metal studs, drywall/plasterboard grids and exposed grids;

28.9 tools[6]; and

28.10 roofing board.

29 Enclosed at **Appendix 12** are USG Boral's catalogues, products and price lists. It should be noted that, as set out in the product list, all products supplied or available for supply by USG Boral in New Zealand are imported from China, the USA, the Middle East and Europe either directly or through Australia.

30 [REDACTED].

31 Rondo Building Services Pty Ltd. is owned 50% by USG Boral Building Products Pty Limited and 50% by CSR Investments Pty Limited. The JV grants USG 25% of the earnings of Rondo and a 25% interest in an Australian factory which manufactures stud and track and other metal products for sale in Australia and New Zealand. However, the Rondo facility in New Zealand is separately 50% owned by CSR and separately managed. The supply of metal products include: steel rollformed stud and track, steel rollformed ceiling battens and steel rollformed exposed ceiling grid.

32 It is through Rondo that USG Boral supplies metal building products in New Zealand. [REDACTED].

33 [REDACTED] Additionally, USG Boral has also recently introduced software system to assist in seismic applications. This product is New Zealand specific, having been designed and developed in New Zealand for New Zealand. The software provides a range of bracing systems and useful tools to assist architects, engineers and architectural designers through the bracing process for seismic and wind resistance outlined in NZS 3604:2011.[7]

Areas of overlap in New Zealand

34 The only area of genuine overlap between Knauf (including AWI) and USG Boral is in supplying modular suspended ceilings, i.e. the supply of grids and tiles. The relevant markets are discussed in more detail in the next part. Knauf, AWI and USG Boral have no pre-existing relationships or shared arrangements.

More information

35 More information is available in the appendices, including:

35.1 **Appendix 4**: detailed product descriptions for modular suspended ceiling components;

35.2 **Appendix 5**: product descriptions for other products referred to above, including a brief description of baffles and rafts;

[6] https://www.usgboral.com/en_nz/products/finishes-compounds/tools-and-accessories.html

[7] Further information is available at https://www.usgboral.com/en_nz/product-resources-and-tools-from-usg-boral/the-resource-centre/BRACE%2B.html.

35.3 **Appendix 6**: volumes for Knauf AMF's supply of modular suspended ceiling components;

35.4 **Appendix 7**: volumes for USG Boral's supply of modular suspended ceiling components;

35.5 **Appendix 12**: USG Boral catalogues, products and price list; and

35.6 **Appendix 14**: [REDACTED].

PART 4: MARKET DEFINITION

Product overview

36 The only area of genuine overlap between Knauf (including AWI) and USG Boral (USG's only interest in New Zealand) in New Zealand is **modular suspended ceilings**.

37 Modular suspended ceilings are internal ceilings where the tiles are laid into a grid system from above. The tiles are held up by the grid system without needing any permanent mechanical fixtures, therefore providing maintenance staff easy access to the technical equipment in the ceiling cavity by simply pushing up the tiles. Such ceilings are almost exclusively used in commercial buildings.

38 **Grids** consist of metal support profiles that form the framework hanging below the soffit. They are the elements on which the tiles sit. Grids are typically made from metal sheets that are cut and then formed into grid systems.

39 **Tiles** are available in various designs and materials. Commonly used materials include mineral fibre, metal, gypsum and wood. The key difference between tiles is aesthetic – appearance, design and colour, and performance – different tiles differ slightly in their acoustic properties. The main form of product differentiation and therefore competition tends to be aesthetics and acoustics.

40 There are some projects that require custom grids and tiles, however a significant portion of grids and tiles are produced in standard sizes and for that reason are interchangeable. That is, any tiles can be used with any grids regardless of tile make and material, and tiles and grids from different manufacturers may be used together. Suppliers don't typically register patents or similar intellectual property protecting particular types of tile or grid.[8] The result is that suppliers:

40.1 can compete regardless of the tile materials they use, and therefore can choose to specialise in particular materials; and

40.2 need not supply both grids and tiles.

41 See more detail in the related discussion from paragraph 65, where we explain the nature of component-level competition and evidence that suppliers often supply only one of grids or tiles, or only one type of tile. More detailed information on grids and tiles is set out in **Appendix 4**.

Previous Commission determination

42 In 2014 the Commission granted clearance for the USG Boral joint venture (***the* USG/Boral Decision**), the USG 50% share of which is part of the Merger and the subject of this application.[9] Grids for modular suspended ceiling systems were one of the three product markets considered by the Commission in that decision, referred to there as the market for steel rollformed exposed ceiling grid.

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8 [REDACTED]

9 Commerce Commission, *Determination: USG Corporation and Boral Limited* [2014] NZCC 4 (**USG/Boral Decision**).

43 In its USG/Boral Decision the Commission noted:[10]

43.1 "USG and Rondo sell their products through distribution arrangements with a number of parties and neither has a direct customer sales presence in New Zealand" – Knauf, AWI and USG Boral operate in a similar manner; and

43.2 "the importation of the final steel product is common and priced competitively to locally produced product"; and

43.3 "[m]anufacturers supply product nationwide".

44 As such, the Commission considered national markets for the manufacture/importation of each of the relevant products, including ceiling grid. The same approach is appropriate in respect of this application. In particular:

44.1 Methods of supply of ceiling grid are unchanged since the USG/Boral decision, as discussed in more detail later in this application.

44.2 The Commission was not required to consider ceiling tiles in the USG/Boral Decision as only USG supplied them in New Zealand, but tiles are supplied in a similar manner to grids.

Market definition

45 The applicant considers that the market relevant for considering the competition dynamics relating to this application is the **national market for the wholesale supply of modular suspended ceilings** (***the Market***), comprising of grids and tiles. This market definition is consistent with manufacture and use of grids and tiles, and the Commission's market analysis in the USG/Boral Decision.

46 We note the Commission's differentiation of grids from two other metals markets (steel rollformed stud and track, and steel rollformed ceiling battens) in the USG/Boral Decision was an intentionally narrow approach. The Commission noted "if there are no competition issues in these narrowly defined markets, there will also unlikely be a competition issue in a more broadly defined market consisting of both stud and track, and ceiling grids."[11]

47 Having regard to the extent of demand and supply side substitution of other (non-grid) metal products and the extent of constraint that these products provide, the appropriate product dimension is broader than grids for modular suspended ceilings only, discussed in more detail from paragraph 100. We note also that other types of ceilings such as plasterboard ceilings can be substituted for modular suspended ceilings in some cases.

48 However, having regard to the fact that we consider that the Merger is unlikely to have any adverse effect on competition in the narrower, grid-specific submarket, our application will proceed on that basis of the national market for the wholesale supply of modular suspended ceilings.

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[10] USG/Boral Decision from [54] to [58].

[11] USG/Boral Decision at [48].

PART 5: FACTUAL AND COUNTERFACTUAL

The factual

AWI transaction

49 As noted above, Knauf is in the process of acquiring AWI's modular suspended ceilings business in the EMEA and APAC region [REDACTED]. Accordingly, it is appropriate that any competition analysis for the Merger treats the New Zealand businesses of Knauf and AWI as consolidated.

USG Boral call option

50 As noted above, USG is active in New Zealand solely through USG Boral. If USG is subject to a "change of control", or if certain other events of default under the USG Boral Shareholders Agreement occur with respect to USG, USG may be required to sell all of its shares in USG Boral to Boral at fair market value in accordance with the USG Boral Shareholders Agreement (***the Boral Call Option***). Entry into the Merger Agreement and the closing of the Merger each constitutes a "change of control" in USG under the USG Boral Shareholders Agreement. If Boral exercises its rights in relation to the Boral Call Option prior to closing of the Merger it is possible that Boral may acquire all of USG's shares in USG Boral before completion (such that Knauf would not acquire any interest in USG Boral upon the closing of the Merger).

Possible factuals

51 As a result, there are two possible scenarios relevant to the New Zealand market that flow from the Merger:

51.1 **Scenario 1**: Boral exercises and acquires USG's 50% interest in the USG Boral joint venture meaning that Knauf does not acquire that interest in the Merger but continues to operate its New Zealand business (including AWI) in competition with USG Boral (which would be owned and operated 100% by Boral and independently of the merged entity);

51.2 **Scenario 2**: Knauf acquires USG's 50% interest in the USG Boral joint venture (because Boral does not exercise the Boral Call Option). [REDACTED].

52 Knauf is unable to predict with certainty which scenario is most likely to prevail. Without prejudice to the Commission's own assessment of these theoretical future scenarios and their impact on the competitive analysis of the Merger, the applicant, for purposes of this application, submits information and market data for Scenario 2, where the existing market shares of Knauf AMF/AWI and USG Boral will be fully consolidated.

Counterfactual

53 The applicants consider that in the counterfactual, Knauf and USG (through USG Boral) will continue their respective business activities in competition with each other as they do today.

PART 6: COMPETITION ANALYSIS

54 The relevant market is the national market for the wholesale supply of modular suspended ceiling components (the ***Market***). This Market is highly competitive and the Merger will have no competitive impact as the Market is characterised by:

54.1 significant levels of independent imports;

54.2 low barriers to entry;

54.3 significant countervailing power in the hands of distributors;

54.4 a number of existing and potential competitors; and

54.5 a number of manufacturers of metal products who could commence supply in response to a SSNIP by the merged entity post-merger.

55 In this section we explain the nature of the Market and then analyse why the Merger is unlikely to substantially lessen competition in the Market, taking into account the importance of imports, low barriers to entry, countervailing power, and alternate suppliers.

A. Background to Market

56 In the Market:

56.1 there is a well-established network of non-exclusive independent distributors;

56.2 components can be sold separately;

56.3 grids and tiles are a standard size and interchangeable; and

56.4 architects, specifiers, sub-contractors and installers are commonly responsible for identifying suppliers.

I. Distribution of modular suspended ceilings

57 In New Zealand, modular suspended ceiling systems are typically supplied through distributors (also known in the industry as "building merchants") who act as suppliers' local agents. These distributors typically bundle a number of products to meet customer (or architect/specifier) requirements. Bundles can often comprise products from various suppliers. As the single channel to market, these distributors exert significant countervailing power and will constrain the merged entity post-merger.

58 These agents operate on a <u>non-exclusive basis</u> because they are often required to build to the specifications of a particular architect or installer, who often specify the suppliers of product to be used. For example:

58.1 Knauf AMF supplies to New Zealand through Potters [REDACTED]; and

58.2 Potters also distributes for USG Boral, Daiken and SAS, and is owned by CSR – an international competitor to Knauf in the wider building products markets.

59 USG Boral maintains its own manufacturing plants producing tiles and grids for modular suspended ceilings, [REDACTED]. USG Boral imports product and sells directly either to market (a building site) or to distributors.

60 As many suppliers provide only a subset of products within the Market, these distributors bundle products from different suppliers. Additionally, customers seek a bundle of grids and tiles, such that sourcing product themselves from different suppliers would be undesirable. Accordingly, distributors provide a service to both suppliers and customers.

61 Additionally, distributors typically offer a wider range of building products than only modular suspended ceiling systems. The table below identifies distributors with a significant presence in New Zealand.

Table 1: Distributors with a significant presence in New Zealand

Distributor	**Current suppliers**
Formans	AWI, USG Boral
Potters	Knauf AMF, USG Boral, SAS, Daiken
T&R Interior Systems	Daiken, USG Boral
Commercial Building Supplies	Rockfon, Dragon
Asona Direct	Asona, Knauf Plasterboard (rarely)

62 Due to the importance of distributors, their bundling roles and their customer-facing skills, most suppliers have little or no actual footprint in New Zealand. [REDACTED]

63 Suppliers tend to provide price lists to distributors and distributors are otherwise completely free to set the prices of the products they sell [REDACTED].[12] Most suppliers, including the merging parties, are not active at the retail level in New Zealand. The end user customer does not ordinarily receive supply directly from the manufacturer. [REDACTED].[13]

64 Pricing charged to distributors is a result of a number of factors including market demand, foreign exchange rates, product costs and performance of product. [REDACTED]. It is common to supply discounted pricing rather than volume specific rebates that are provided at the end of the project.

II. Grids and tiles

65 Suppliers do not need to supply all components of modular suspended ceiling systems, nor tiles made of all the possible materials. Manufacturers and importers can, and do, limit their offers to specific components. This is facilitated by the fact that:

[12] [REDACTED]

[13] [REDACTED]

65.1 grids and tiles are commonly standard in form and size, and are therefore readily interchangeable (as discussed from paragraph 37 above);

65.2 distributors are able to bundle components of ceiling systems from different suppliers and are able to package together components from multiple suppliers to create ceiling systems to meet specifications and demand; and

65.3 distributors typically operate on a non-exclusive basis.

66 Accordingly suppliers compete with tiles regardless of the material and may specialise in a niche material. A supplier need not offer supply of both tiles (including the full range of materials) and grids in order to participate in the Market.

67 As evidence of competition from single product suppliers, Knauf understands that in New Zealand:

67.1 Knauf AMF (when it does supply grids) and an extensive list of its competitors sell standalone grids (i.e. for use with competitor tiles);

67.2 an extensive list of Knauf's AMF's competitors sell standalone tiles (i.e. for use with competitor grids);

67.3 Knauf AMF, AWI, Studform, SAS and CBI all import, and Rondo manufactures, generic grids for use in association with any tiles;

67.4 Knauf AMF and an extensive list of its competitors manufacture or import generic tiles for use in association with any grids.

68 Full lists of these parties are set out at **Appendix 8:** Examples of standalone supply, based on Knauf AMF staff records and recollections.

69 Knauf AMF market data estimates (set out in full in **Appendix 6**) identify that in 2017 [REDACTED].

70 Suppliers can also easily add tiles or grids to their offering if they so wish or if a distributor, architect or customer for some reason requires grids and tiles from the same supplier. Suppliers can easily buy at the wholesale level from manufacturers and on-sell those products to their distributors along with their own. For example, AWI manufactures tiles and WAVE (Worthington Armstrong Venture, an AWI-Worthington Industries joint venture) manufactures steel roll-formed grids, [REDACTED].

III. Architects, specifiers, sub-contractors and installers

71 Architects, specifiers, sub-contractors and installers typically:

71.1 nominate or determine the supplier and distributor for any project; and

71.2 seek out distributors to provide a range of products from different suppliers, to efficiently meet the unique technical specifications or performance characteristics of their particular projects.

72 These practices increase the power of distributors, with multiple delivery channels constraining upstream manufacturers and importers. Countervailing power provided

by architects, specifiers, sub-contractors and installers is discussed in more detail from paragraph 84 below.

73 A builder will usually have several sub-contractors quoting on any given project. Those sub-contractors will ask the various distributors for quotes. After the builder appoints a sub-contractor, further negotiations may occur between the sub-contractor and the distributors or suppliers.

74 Installers are usually distinct from distributors, and are not suppliers. [REDACTED] Formans does have a supply arm and installation division in New Zealand. [REDACTED]

B. The Merger will not substantially lessen competition

I. Significant independent imports will constrain the merged entity post acquisition

75 Modular suspended ceiling components supplied in New Zealand are substantially imported, including from as far away as Europe. Imported products are priced competitively with local products.[14]

76 Accordingly, suppliers (including new entrants or competitors seeking to expand) to New Zealand do not need local manufacturing capacity to compete effectively.

77 Products currently imported by manufacturers other than the merger parties are strong substitutes in all respects for the product supplied to New Zealand by the merger parties.

78 Knauf AMF estimates that at least [REDACTED]%, and USG Boral estimates that at least [REDACTED]% of New Zealand sales of grids and tiles in 2017 represented products manufactured off-shore and imported to New Zealand. This is typical.

79 Current levels of imports are indicative of the competitive role they play in the Market. Further, given the extent of imports in the Market i.e. in excess of [REDACTED]%, it is likely that imports will continue to constrain the merged entity post-merger.

80 These levels of imports are suggestive of the conclusion that there are no barriers to the quantity of independent imports rapidly increasing in response to a SSNIP by the merged entity post-merger, thereby providing an effective competitive constraint. Imports may be coordinated by manufacturers, other suppliers (e.g. [REDACTED]) or distributors.

81 Imports from parties other than the merger parties exceed [REDACTED]% of total sales. Accordingly, there are notable levels of imports independent of the merger parties. This level of imports is likely to impose an effective and direct competitive constraint post-merger, specifically, as there is no basis to conclude that imports are likely to decline.

82 Additional sales and volumes data is set out in **Appendix 6** and **Appendix 7**.

II. Barriers to entry are low

83 The Market is characterised by low (if not non-existent) barriers to entry. In particular:

[14] See the Commission's USG/Boral Decision at [57].

83.1 no domestic manufacturing presence is required and products can be easily transported from any region and in any volumes, as shown by the fact that:

(a) in the case of tiles (based on Knauf AMF estimates):

(i) Saint Gobain / Eurocoustic imported [REDACTED] from France and China;

(ii) Ecophon imported [REDACTED], all the way from France;

(b) similarly in the case of grids, smaller overseas suppliers like Studform, Chicago, SAS and CBI all import into New Zealand from time to time;

83.2 nor is offshore manufacturing required. [REDACTED];

83.3 there is no minimum efficient scale, meaning that entry can occur in small increments. This is assisted by the preparedness of distributors to accept small volumes from suppliers. By way of example, international suppliers such as Rockfon, Saint Gobain / Eurocoustic, Ecophon and SAS all supply to New Zealand despite each accounting for less than [REDACTED]. Additionally, as grids and tiles are (mainly) standard form and interchangeable, and distributors facilitate the bundling of different suppliers' products together, new entrants can select one specific component or tile material to provide; there is no need to provide completed ceiling systems or several types of tile material;

83.4 having regard to the fact that domestic manufacturing facilities are not required and an established and sophisticated distribution system is accessible to new entrants (or existing competitors seeking to expand), investment for new entrants is not significant and these costs would not be regarded as sunk;[15]

83.5 there are little or no barriers to entry or expansion arising from accessing distribution channels. As noted, the New Zealand market is characterised by prevalence of distributors available to handle logistics and customer engagement;

83.6 distributors are typically non-exclusive and in some cases (e.g. Potters) distribute for their owners' competitors;

83.7 distributors are also available even for small volumes, as shown by the fact that Commercial Building Supplies distributes for Rockfon's [REDACTED] and Potters similarly distributes for SAS' [REDACTED] (Knauf AMF 2017 estimates); and

83.8 there are no strategic barriers to entry or expansion such as incumbency, exclusive long-term contracts or termination fees.

III. The Market is characterised by significant countervailing power

84 We describe from paragraph 57 above the nature and importance of distributors in the supply of modular suspended ceilings in New Zealand and the competitive constraint that the merged entity will face post-merger. These distributors provide an important

[15] For example, Knauf AMF began supplying modular suspended ceiling tiles to New Zealand in 2009. [REDACTED].

constraint that is likely to continue to constrain the merged entity. In particular, distributors:

84.1 typically operate on a non-exclusive basis and have the ability and incentive to secure supply from a range of alternative sources due to their customers' demands (discussed in the next section) and in the event they are subject to a SSNIP from the merged entity;

84.2 have particularly keen incentives due to a highly competitive downstream construction sector where it is imperative to manage input costs as tightly as possible. Distributors (and the sub-contractors who also compete for business and often choose distributors) are generally unable to pass on cost inefficiencies upstream; and

84.3 are incentivised to carry a wide range of suppliers' products, no matter how niche, to ensure their own competitive advantage.

85 Choice in modular suspended ceiling systems tends to be driven by a range of intermediaries including architects, specifiers, sub-contractors and installers, who play an important role in exercising countervailing market power. Architects, specifiers, sub-contractors and installers:

85.1 control orders for large quantities;

85.2 are well informed and high skilled;

85.3 are price sensitive – participating in a competitive downstream construction market (and often quoting to their employers, based in part on distributors' quotes, before they've secured the jobs themselves); and

85.4 are directly invested in the quality of products, with their reputations linked to the products they acquire on developers' behalves.

86 As a result, architects, specifiers, sub-contractors and installers are actively engaged in influencing the purchasing decision; they communicate directly with distributors and sometimes suppliers, and are in a position to select the products, qualities and brands they and their clients prefer. Specifier requests can easily sponsor new entry or expansion and ensure that distributors keep their upstream arrangements flexible and non-exclusive.

87 In Knauf AMF's experience, after specifications, price is the main factor for customers. If prices are similar, other factors include perceptions of reliability and service quality, and relationships that intermediaries have with distributors.

88 In USG Boral's experience, end-user customers make this choice based on the performance requirements and cost of each project.

89 The nature and role of architects, specifiers, sub-contractors and installers is clear when considering Knauf AMF and USG Boral's major customers. USG Boral's top customers, as supplied by USG Boral's distributors, are (see **Appendix 9** for contact details):

[REDACTED]

90 Knauf AMF's top customers, as supplied by Potters, are (see **Appendix 9** for contact details):

[REDACTED]

91 Architects, specifiers, sub-contractors and installers are critical in purchasing decisions relating to a wide range of building materials, not just modular suspended ceiling systems (and in fact the job may not even require a modular suspended ceiling). Importantly, this means:

91.1 price competition is important to contractors who are often working within a budget; and

91.2 winning business with or preference from a given contractor has a wider benefit to most distributors than simply the sale of modular suspended ceiling components (i.e. given distributors provide and contractors buy a range of building materials).

92 Accordingly, the Market is characterised by significant levels of countervailing power.

IV. Availability of alternative suppliers

93 There are a number of alternative suppliers to which customers are potentially able to switch in the event that the merged entity exercises market power by increasing prices post-merger.

94 Knauf estimates the total value of the Market to be around [REDACTED]. Knauf AMF and USG Boral have identified a number of alternative competitors in the Market. Their market share estimates are set out **Appendix 6** and **Appendix 7**.

95 Even though competitors outside the merged entity currently have modest market shares, the Market is characterised by low barriers to entry and the significant presence of imported product, which together mean that the merged parties would remain constrained by the threat of these parties expanding in response to an attempted SSNIP by the merged entity.

96 Smaller domestic suppliers such as Asona and GIB will also constrain the merged entity. Although these players lack the global scale of the merging parties, they of course avoid some of the transport costs associated with the supply of imported products.

97 Anyone who supplies modular suspended ceiling components could expand the volume or range of components they supply. See the wide range of suppliers set out above and listed in **Appendices 6 to 8**). Due to the presence of low barriers to entry and expansion described above (and evidenced by the presence of these small suppliers), each of these potential competitors will act as an effective competitive constraint in response to an attempted SSNIP by the merged entity.

98 Any of these potential competitors or international suppliers could readily respond to any supply request from a New Zealand customer and fulfil that request by supplying products via an existing distributor (including those who supply for the merging parties) or partnering with a local manufacturer in New Zealand, such as Asona or GIB.

99 The parties are not aware of any structural issues that materially constrain new entry or expansion in New Zealand.

V. The merged entity will be constrained post-merger from manufacturers of metal products who could commence production in response to a SSNIP

100 Post-merger, the merged entity would also remain constrained as suppliers are able to switch production from other metal products to ceiling grids in response to a SSNIP by the merged entity. Manufacturers of metal products (a number are identified below) rarely manufacture only one specific product; manufacturers can easily switch some production capacity to ceiling grids regardless of whether they already supply grid or not.

101 In this respect, we note that the Commission identified the ease of switching in its 2014 USG/Boral Decision, noting:[16]

101.1 "From a supply side perspective, the machinery and expertise needed to manufacture the three main types of metal products – stud and track, battens, and ceiling grid – are very similar. All require rollforming machinery to form the steel into shape and punch and knurl it as required. The manufacturers we have spoken to have indicated that generally a wide range of sizes and types of metal products can be manufactured on a single rollformer, with limited changeover required between different sizes or types."

101.2 "These products [stud and track, battens, and ceiling grid] are all produced using the same steel sheet as an input. The changeover typically requires a change of 'cassettes' to specify the shape to be rolled and this can take between one to three hours to compete (sic)."

102 The following manufacturers already supply one or more metal products in New Zealand, as identified by the Commission in its USG/Boral Decision, and are all capable of (both quickly and at little cost) switching production to increase their grid outputs in the event that the merged entity attempted a SSNIP:

102.1 Rollformers 2000;

102.2 Steel Rollformed Products Limited;

102.3 CSR;

102.4 CBI;

102.5 StudCo; and

102.6 Steelformers.

103 In addition, suppliers without manufacturing capabilities can enter the market by acquiring grids from local or offshore manufacturers, [REDACTED].

[16] USG/Boral Decision at [45].

C. Merged entity will not be able to foreclose competitors

104 For the myriad reasons given above, the merged entity will have no ability to foreclose competition post transaction, in particular noting that:

104.1 tiles and grids are typically standard form and interchangeable;

104.2 distributors operate on a non-exclusive basis. They source products from multiple sources and sell packages directly to customers. Upstream suppliers do not and cannot require distributors to bundle their products; and

104.3 the market is characterised by significant countervailing power;

104.4 architects, specifiers or sub-contractors could easily sponsor new entry if the merged entity was able in some way to attempt to foreclose competitors; and

104.5 the merged entity will have no ability to prevent numerous alternative suppliers from operating, entering or expanding in New Zealand.

D. Market post-merger will not be conducive to coordinated conduct

105 The Market post-merger will not be conducive to coordinated conduct because:

105.1 transactions occur bilaterally at the wholesale level, with minimal transparency of pricing for third parties (other than the ultimate customer);

105.2 there are no significant interactions between competitors enabling meetings to coordinate or for the cartel participants to observe and punish non-compliance with any coordination agreement;

105.3 there is a significant emphasis on innovation with suppliers seeking to secure a competitive advantage by improving their technology;

105.4 existing competitors are of different sizes and are often supported by global operations meaning that there is little chance for transparency of cost bases between competitors;

105.5 existing competitors do not regularly interact on commercial matters; and

105.6 existing competitors have contrasting business models.

PART 7: CONFIDENTIALITY

106 This "public version" of the notice specifically redacts all information that is commercially sensitive to the Applicants.

107 The parties request that they be notified if a request is made to the Commission for release of the confidential information under the Official Information Act 1982.

DECLARATION BY KNAUF AND USG

I have prepared, or supervised the preparation if this notice seeking clearance.

To the best of my knowledge, I confirm that:

- All information specified by the Commission has been supplied;
- If information has not been supplied, reasons have been included as to why the information has not been supplied;
- All information known to me that is relevant to the consideration of this notice has been supplied; and
- All information supplied is correct as at the date of this notice.

I undertake to advise the Commission immediately of any material change in circumstances relating to the notice.

I understand that it is an offence under the Commerce Act to attempt to deceive or knowingly mislead the Commission in respect of any matter before the Commission, including in these documents.

I am a director/officer of the company and am duly authorised to submit this notice.

Name and title of person authorised to sign:

_____

On behalf of Knauf

Sign: _____ **Date:** _____

Name and title of person authorised to sign:

_____

On behalf of USG

Sign: _____ **Date:** _____

APPENDIX 1: AGREEMENT AND PLAN OF MERGER

[*Confidential*]

APPENDIX 2: COMPANY DISCLOSURE LETTER TO AGREEMENT AND PLAN OF MERGER

[*Confidential*]

APPENDIX 3: PARENT DISCLOSURE LETTER TO AGREEMENT AND PLAN OF MERGER

[*Confidential*]

APPENDIX 4: PRODUCT DESCRIPTIONS – MODULAR SUSPENDED CEILING COMPONENTS

1 The Commission has asked for specific information on tile and grid products supplied to New Zealand (in italics), which we answer below.

Extent of differentiation
Please describe the extent of differentiation between the tile and grid products supplied in New Zealand, for example:

(a) What are the different requirements of customers and how do different products within each category meet these needs?

2 From a demand-side perspective, customers are primarily concerned with the products' visual appearance, functionality and characteristics (such as acoustic properties, hygiene and durability). Generally, all tiles and grids can be used for all kind of applications: All grids for modular suspended ceilings are made of the same material (galvanised steel). Tiles used for modular suspended ceilings are available in a variety of materials, including mineral fibre, metal, gypsum and wood. Tiles are used by customers across almost all types of applications regardless of the material they are made of, as their characteristics are not linked exclusively to one particular material. For example:

2.1 **Appearance** – the appearance of a tile is determined by the surface design and finish, rather than its material substrate. The finish of the tile can come in a wide variety of colours, patterns, designs and textures. For example, a tile with a wood-like finish could be made of wood or metal. Knauf offers a range of "metal look" tiles made from mineral fibre (the THERMATEX® Varioline range) which can achieve the same visual appearance as tiles made of actual metal.

Comparison of "metal look" tile and actual metal tile

(Left) THERMATEX® Varioline Metal, a "metal look" tile offered by Knauf with a mineral fibre substrate.
(Right) SAS-130, a metal tile offered by SAS, with a metal substrate.

2.2 **Acoustics** – The most important acoustic properties of a tile are (i) sound absorption and (ii) sound attenuation.

(a) Sound absorption measures how the tile "captures" sound. For example, in open office environments tiles with good sound absorption decrease the level of noise perceived by office workers.

(b) Sound attenuation measures how sound is "insulated" between different building areas that are connected through a single ceiling. This

characteristic is important to keep out noise from adjacent areas in a building and to protect privacy (e.g. in meeting rooms).

The acoustic performance of a tile is determined by a combination of factors, including material, structure (e.g. perforated or non-perforated) and other technical characteristics. All material types offer a base level of acoustic performance. Manufacturers typically offer a range of tile products for any given material type to satisfy the specific preferences of customers in relation to acoustic performance. For example, mineral fibre tiles may carry a fleece and metal tiles can be perforated to achieve high sound absorption. Sound attenuation can be improved by producing a thicker tile or by combining an outer layer (e.g. a metal tile) with a sound insulating material. This means that each material type can be used to produce tiles for a wide range of end users. For example, a perforated gypsum tile, a perforated metal tile and a mineral fibre tile could equally achieve the same highest acoustic properties, with products made of each type of materials achieving the maximum absorption and insulation rate.

2.3 **Hygiene** – another functional aspect of ceiling tiles is their ability to maintain good hygiene levels. As with acoustics, all material types offer a base level of hygiene. Many manufacturers offer a range of tile products for any given material type to satisfy the specific hygiene preferences of customers. As such, each material type offers a viable option for customers seeking specific hygiene characteristics. This is exemplified by Ecophon's Hygiene™ product range[17] (mineral fibre) and Armstrong's Metal Clip-In Bioguard product range[18] (metal).

2.4 **Durability/life-span** - the life-span of a ceiling generally does not depend on the material it is made of, but rather on the application it is used for. For example, ceilings installed in an office will usually need to be replaced less frequently than ceilings installed in an industrial kitchen. Normally a celling must be "made good" again at the end of a lease (so, approximately every 10 – 15 years (Knauf AMF estimate) or 7 to 10 years (USG Boral estimate) depending on the office lease period) and all additions removed from the ceiling.

3 In addition, regularly customers require tiles with acoustical performance attributes, which is measured by the:

3.1 noise ratio coefficient (**NRC**). NRC is a measure of the sound absorption of the panel, the percentage of sound energy not reflected by the panel, which ranges from 0 to 1.0; and

3.2 ceiling attenuation class (**CAC**). CAC is a measure of how well the panel blocks sound transmission; the CAC test actually measures how sound is blocked when traveling from one room, into the ceiling plenum with no wall above the ceiling and into another room with the same type of ceiling. CAC ranges from 0 up to 40-45 for ceiling panels.

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17 http://www.ecophon.com/en/products/Modular-ceilings/Hygiene/

18 https://www.armstrongceilings.com/commercial/en-gb/commercial-ceilings-walls/metal-clip-in-bioguard-ceiling-tiles.html

(b) What are the manufacturing requirements for the different products within each category?

4 As pointed out above, there are no "categories" within the modular suspended ceilings segment. All materials are viable alternatives for a wide range of customers seeking modular suspended ceiling solutions. Each ceiling type can be manufactured and varied to offer the appearance, functionality and characteristics required by a particular customer. As explained in more detail above, e.g. acoustic properties can simply be improved by adding fleece to the tile or by perforating it. Also, an outer layer (e.g. a metal tile) might be combined with a sound insulating material.

(c) Is there differentiation in quality between products from different suppliers?

5 Besides price, which Knauf and USG consider to be the most important factor, other factors, such as quality, aesthetics and functionalities, also play an important role in end-customers' (e.g. architects') purchasing decision. Ceilings are available in a wide range of performance characteristics, including in terms of acoustic properties, light reflection, fire protection, humidity resistance and hygiene. Competitive pressure in relation to product quality and functionality is fuelled by manufacturers' constant investments in R&D to develop new products and improve the ease of installation and product sustainability.

Extent of off-the-shelf production
Please describe the extent to which modular suspended ceiling products are made bespoke for customers (as opposed to uniform "off the shelf").

6 Generally, modular suspended ceilings are commoditized products that are produced in large quantities and have standard sizes. However, in larger building projects customers sometimes demand customised solutions. For example, this is the case for more specialist applications, such as rooms with high hygiene standards (e.g. clean rooms, such as surgery rooms and laboratories, industrial kitchens, etc.), with high humidity standards (e.g. swimming pools) or with specific acoustical needs (e.g. music rooms, theatres, etc.).

7 [REDACTED]

Compatibility of different tile and grid products
Please provide further evidence on the compatibility of different tile and grid products. For example:

(a) Are there instances in which a certain type of grid must be used with a certain type of tile? Please explain.

(b) Are there instances in which grids from one supplier cannot be used with tiles from a different supplier? Please explain.

8 Tiles and grids for modular suspended ceilings can be – and in fact are – also purchased separately. Generally, tiles of one manufacturer are compatible and may be combined with grids of another, i.e. there are generally no technical burdens that would hinder customers from combining components of different suppliers. Tiles and grids respectively usually have standard measures and there are no technical requirements as to the installation of tiles made of a certain material.

9 Only the size (being the dimensions of the tile, specifically the length and width) or fit (this is specifically the profile of the tile which may be produced to render a specific aesthetic such as a beveled edge) will influence which tile is required to be used with the grid. In all other respects the tiles are interchangeable to meet the requirements of the end user customer including between brands or manufacturers.

10 The main reason for component purchases is that, in case of refurbishments or repair works, it is usually only the tiles that are replaced, whereas grids have a longer lifetime and must hardly ever be replaced. Thus, there is constant demand for tiles as a single component (i.e. without grids). Furthermore, some customers may also prefer to work with a specific grid system of a certain supplier (e.g. due to the installation technique, prior experience with the product or cost reasons) but wish to combine these grids with tiles from another supplier (e.g. for cost reasons, because of a certain design this supplier may offer or prior experience with the product).

11 Just for completeness, we note that, if a ceiling system is classified as a fire resistant construction according to the European standard EN 13501-2 (which is not very common), it is only allowed to install the classified system as such, i.e. the grids must not be combined with tiles of another competitor and *vice versa*, unless this newly assembled system is re-certified.

12 USG Boral understands that there are only a few examples of grids and tiles with limited interchangeability, such as DXF and some Armstrong products. In the case of all other tile and grid products, as noted above, standard sizes are typically used and different manufacturers' tiles and grids are interchangeable.

(c) To what extent are there disadvantages or higher costs in using components from different suppliers?

13 Customers typically prefer to source entire ceiling solutions from one manufacturer, rather than combining grids and tiles from different manufacturers. This is primarily due to the following advantages that come with purchasing complete ceiling systems:

13.1 ***One-stop service and customer support*** – sourcing entire ceiling solutions from one manufacturer can streamline the logistical and project management processes at the planning stage, which is typically preferred by architects. Moreover, manufacturers typically provide better and more comprehensive customer support if the entire system has been sourced from one manufacturer.

13.2 ***Transport costs*** – sourcing whole systems from one manufacturer results in savings in transport costs, given that many manufacturers produce ceiling tiles and grids at the same (or at least a nearby) location [REDACTED]. These savings in transport costs mean manufacturers are typically able to provide keener prices to customers for whole ceiling systems in comparison to individual components.

13.3 ***Regulatory requirements*** – entire ceiling systems, rather than individual components, must comply with increased regulatory requirements. For instance, the applicable fire protection standard (EN 1365-2), which is effective in all EU Member States, relates only to the fire-proof quality of whole ceiling systems (there is no similar standard in New Zealand). If the grids supplied by one manufacturer are combined with the tiles supplied by another, the end customer will need to obtain the EN 1365-2 certification separately and in addition to the

increased administrative burden will therefore need to incur additional costs. These costs can be avoided if a pre-certified suspended ceiling system is sourced from a single manufacturer.

14 Additionally, it should be noted that there is no seismic or structural system warranty or engineering support provided if the tile and grid used are from different systems. Conversely, it is industry practice that, for tiles and grids from a single system, a structural or engineering warranty and support is provided if a single system is used. When mixing components from different suppliers for a structural engineering solution, an appropriately qualified structural or technical engineer must sign off on the solution. Therefore unique and additional engineering costs are incurred.

15 This cost is specific to the design and would be a cost for the project as a whole. For many projects this cost would be of a level as to have very little to no impact on this option being considered. The impact of the cost will depend on the size of the project because engineering costs are generally similar irrespective of the project size. By way of example, an $800,000 project might have engineering costs of $15,000 and a small single shop project with a value of $15,000 may have an engineering costs of $5,000 - $15,000. Accordingly, the cost either does or does not deter mixing different suppliers' grid and tile.

16 When mixing different suppliers' grid and tile, the document issued by the engineer is a PS1 or a "Producer Statement 1", which is an opinion, not a warranty. Should there be a problem with the inspections or building later on, the PS1 is just one piece of evidence as to whether the hybrid grid/tile solution is/was sufficient.

17 While producer statements are well-established and widely used, they have no particular status under the Building Act 2004. They are used as one source of information which the council may rely upon to determine whether there are reasonable grounds to conclude that the work complies with the Building Code.

18 In considering whether to accept a producer statement, a council will normally assess the credentials of the author to ensure that person has the appropriate experience and competence in their particular field of expertise and make their own inspections of the building work.

19 Producer statements are typically used for specialist work, such as engineering, or where there is a proprietary product which is installed by appointed contractors. Aspects of this work will be outside the council's in-house expertise and a producer statement can assist the council when they are determining whether the building work complies with the Building Code. Councils will use their judgement when considering producer statements and how much weight to give them.

20 There are currently four types of producer statement, all with generally widespread council acceptance. They are known as PS 1 – Design, PS 2 – Design review, PS 3 – Construction (often used by the installers of proprietary systems), and PS 4 – Construction review.

Product certifications

Please provide for modular suspended ceiling products any general certifications or other standards (e.g. building code requirements) obtained by the products.

21 General requirements apply to all suppliers in New Zealand, in particular those set by the Building Code. Knauf AMF and USG Boral meet these requirements. Examples of these requirements include:

21.1 AS/NZS 4600 requirements for cold-formed steel structures;

21.2 AS/NZS 2785 requirements for suspended ceilings (design and installation);

21.3 Group 1S Fire Code requirements (within the Building Code);

21.4 AS 1397 – 2011 requirements for continuous hot-dip metallic coated steel sheet and strip;

21.5 ASTM C635 Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings;

21.6 AS/NZS 1170 structural design actions/requirements;

21.7 NZS 1170.5 New Zealand commentary regarding earthquake actions/requirements;

21.8 NZS 4219 regarding seismic performance of engineering systems in buildings; and

21.9 acoustic design requirements for schools, set by Ministry of Education.

22 Other than those general legal requirements, and requirements from other countries where suppliers manufacture on bulk for supply to multiple countries, suppliers tend not to meet self-set certifications. Suppliers will of course provide other information on their products, as requested, to qualified engineers and architects as inputs to their building designs and requirements. Grids and tiles are merely small parts of a wider building design or fit-out, and so engineers tend to make all determinations and statements required about structural integrity etc, not suppliers.

23 Suppliers don't typically register patents or similar intellectual property protecting particular types of tile or grid. [REDACTED]

24 [REDACTED]

25 [REDACTED

26 REDACTED]

Please describe the processes used by Knauf and USG Boral for importing modular suspended ceiling products into New Zealand, including general requirements and costs.

27 The process for Knauf is as follows:

[REDACTED]

28 The process for USG Boral is as follows:

[REDACTED]

APPENDIX 5: PRODUCT DESCRIPTIONS – OTHER PRODUCTS REFERRED TO

Gypsum boards

1 Gypsum boards (or plasterboards) are non-load-bearing boards used for dry construction. They consist of gypsum extruded between thick sheets of facer and backer paper. They are typically screwed to layers and can be purchased at builder's merchants and in DIY-stores.

2 Plasterboards are different from gypsum fibre boards: the latter contain fibre but no outside coating of carton. Gypsum fibre boards are primarily used for load-bearing lightweight applications, such as timber construction. Most typically, gypsum fibre boards are used for flooring, roofing and moisture resistant applications. They are primarily sold through specialist retailers focusing on timber construction.

Cement boards

3 Cement boards are heavy, water-durable wall panels, which contain glass fleece. They are only used in case of special technical requirements (such as water and steam resistance or high mechanical load capacity). Cement boards are typically used as wall frameworks (interior construction and facade) for public swimming pools, commercial kitchens and in the industry sector.

4 Cement boards differ from cement fibre boards: the latter contain fibres (no glass fleece) and are typically used for housing construction. Cement boards are significantly more expensive and heavier than cement fibre boards.

Fixed suspended ceilings

5 Fixed suspended ceilings and modular suspended ceilings are similar in that they generally both consist of tiles and a grid system (which is called "metal profile" in case of fixed suspended ceilings as opposed to "grids" in case of modular suspended ceilings). However, there are also certain differences, such as regarding the degree of flexibility of access to the ceiling cavity, input materials used and functionality (e.g. acoustic properties). Also, while modular suspended ceilings are almost exclusively installed in non-residential buildings, fixed suspended ceilings are common in both the residential and the non-residential segments.

6 Tiles for fixed suspended ceilings are large boards predominantly made of plasterboard (which is what Knauf offers). The surface is usually not treated, as they are typically spackled after having been mounted. The underlying construction for fixed versus modular suspended ceilings significantly differs in terms of form, shape and functionality. Especially the thickness of the steel varies. While – in the case of modular suspended ceilings – the tiles are just loosely fitted into the grid from above, fixed suspended ceilings are characterised by the tiles being mechanically fixed to (i.e. typically screwed into) the metal profiles from below.

Metal profiles

7 Metal profiles are underlying constructions made of galvanized steel used in wall and fixed suspended ceiling applications (C-profiles). Tiles are typically screwed into the profiles.

Plaster

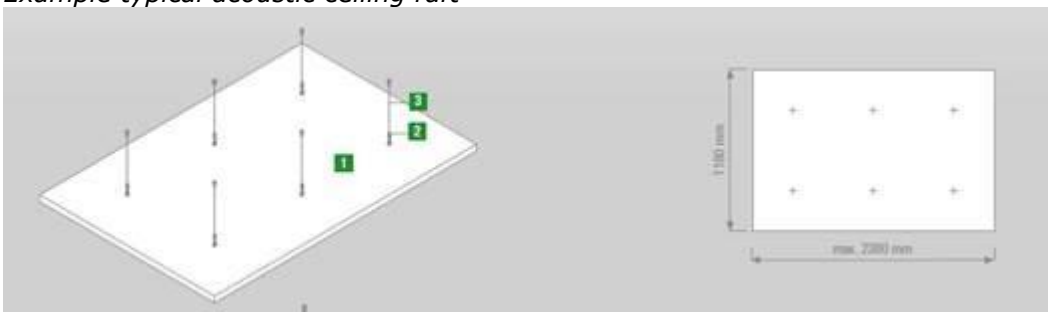
8 Plaster is used for the coating of walls and ceilings as well as for moulding and casting decorative elements. It is manufactured as a dry powder and is mixed with water to form a stiff but workable paste immediately before it is applied to the surface.

9 Joint compound is a white gypsum powder mixed with water to form a mud, which is used with paper or fiber joint tape to seal joints between sheets of drywall to create a seamless base for paint on interior walls. The word "plaster" refers to both types of products.

Baffles, rafts and absorbers

10 Baffles, rafts and absorbers absorb sound to reduce echoes in a room. Rafts are hung from a ceiling on a horizontal plane and baffles are hung vertically, as shown by the following examples:

Example typical acoustic ceiling raft



Example typical acoustic baffle

APPENDIX 6: KNAUF AMF MODULAR SUSPENDED CEILING MARKET DATA[19]

NZ volumes sales data – Knauf AMF (2016 & 2017)
[REDACTED]

All volumes sold by Knauf AMF to Potters. Knauf AMF average prices to Potters:

- 2016:
    - Tiles: [REDACTED].
    - Grids: [REDACTED].
- 2017:
    - Tiles: [REDACTED].
    - Grids: [REDACTED].

[19] Data provided in this appendix relates to Knauf AMF volumes and sales of grids and tiles, and estimates of third parties.

Knauf AMF is Knauf's primary business in NZ, supplying modular suspended ceiling tiles and a small amount of grids via its distributor Potters. As discussed:

- at paragraph 22 above, Knauf AMF also supplies small quantities of other commodity products for use in relation to modular suspended ceilings; and
- at paragraph 24 above, Knauf Plasterboard also provides a negligible amount of plasterboard/gypsum products used variously for fixed and modular suspended ceilings.

Market shares for tiles – Knauf AMF estimates (2015 – 2017)
[REDACTED]

Market shares for grids – Knauf AMF estimates (2015 – 2017)
[REDACTED]

APPENDIX 7: USG BORAL MODULAR SUSPENDED CEILING MARKET DATA

NZ volumes sales data – USG Boral (2016 & 2017)
[REDACTED]

Average selling price
[REDACTED]

USG Boral market data/estimates for FY16[20]

Market shares for tiles

[REDACTED]

Market shares for grids

[REDACTED]

[20] [REDACTED]

APPENDIX 8: EXAMPLES OF STANDALONE SUPPLY

[REDACTED]

APPENDIX 9: MARKET PARTICIPANTS' CONTACT DETAILS

Contact details held by Knauf AMF

1 Potter's (Knauf AMF's sole distributor in New Zealand):

[REDACTED]

2 Other suppliers of modular suspended ceiling components (not exhaustive):

[REDACTED]

3 Knauf AMF's top New Zealand contractors/sub-contractors as supplied by Potters:

[REDACTED]

4 Examples of architects or specifiers who make recommendations or decisions about modular suspended ceilings:

[REDACTED]

Contact details held by USG Boral

5 [REDACTED]

6 [REDACTED]

APPENDIX 10: KNAUF OWNERSHIP STRUCTURE

[*Confidential*]

APPENDIX 11: USG / USG BORAL OWNERSHIP STRUCTURE

[*Confidential*]

APPENDIX 12: USG BORAL'S CATALOGUES PRODUCTS AND PRICE LISTS

[Partially confidential, attached separately]

APPENDIX 13: [REDACTED]

[*Confidential*]

APPENDIX 14: [REDACTED]

[*Confidential*]

APPENDIX 15: USG BORAL JOINT VENTURE AGREEMENT

[Confidential]