



The Issue of Product Assurance: May 2017

The Grenfell Towers tragedy in London has focussed a good deal of attention on the fit-for-purpose nature of building products and materials. Booming market conditions, such as those currently being experienced in New Zealand, tend to increase temptation for supply of cheaper and sometimes non-conforming products and materials amongst local industry participants, trading opportunists and overseas suppliers. The use of materials outside those specified in design documentation raises significant concerns among leading engineers, consultants, architects, designers, construction contractors – and the supply chain itself – that materials and products used may be not fit for purpose, inferior to those required to ensure best build performance or be utilised for a purpose outside the scope of use as defined by the manufacturer. These concerns apply to the vertical and horizontal sectors of construction, residential and commercial.

The substitution of non-conforming products (NCP) has become anecdotally systemic within the Auckland market, supported by photographs provided to industry by Auckland Council and concerns from within industry. Plumbers and commercial businesses report concerns about plumbing materials, glass products for showers, windows and balustrades, claddings, roofing tiles and aluminium and PVC window frames. While the steel industry reports a very low rate of product failures in structural steel imports, demands for local testing of imported structural steel products are becoming more fervent, even if these products are shown to have been tested for compliance at source. Electrical cabling is a further area of concern, especially since such cabling was the subject of a multi-million-dollar product recall and replacement work in New South Wales approximately two years ago. These selected examples are reflective of the unease within industry and procurers.

The situation is not unique to New Zealand, with Australian authorities reporting similar concerns and a Senate Inquiry due to report on the extent of the problem of NCP in the market there.

The BRANZ project, “Electronic traceability of New Zealand construction products: Feasibility and opportunities” sought to assess the economic cost of NCP in New Zealand based on two methods of assessment. The first utilised media coverage and other reports of product failure in New Zealand and elsewhere to derive a list of non-conforming products and the cost to remedy. This approach omits undetected NCP and was focused primarily on residential construction. The second assessment approach used a report by the Australian Industry Group on NCP and assumed the findings represented a similar situation in New Zealand on the basis that there is nothing significantly different between the two Tasman markets. It takes into account both non-residential and residential construction.

A table based on the first methodology estimated the annual cost of NCP to be upward of NZD 95m, including materials and labour, with cost estimates based on either repair costs or replacement, using construction cost data. Modelling based on the second methodology

produced a loss of sales by New Zealand manufacturers of about NZD 116 million annually. Applying the assumption that labour costs for installing product, demolition and disposal is about 50% of the total cost, the total rose to NZD 232 million a year

The annual estimated costs of between NZD 95 – 232 million, depending on the methodology used, is a small percentage of the annual cost of construction in New Zealand, which currently sits at approximately NZD 25 billion. The report does note that apart from reconstruction, there are also additional costs such as redesign, extra council fees, loss of reputation and disruption to business.

Toward a solution

1. ***Building Industry Federation proposal:*** In summary – Amend Section 14G of the Building Act to make a statement of compliance with the NZ Building Code mandatory for all products and/or systems brought to market, accompanied by a three tier, risk-related compliance statement comprising: Low Risk (assurance provided by producer or importer); Medium Risk (technical assurance provided by an expert party such as BRANZ); and High Risk (assurance provided by third party certification from an IANZ/Code Mark or ISO accredited audit or test facility, accompanied by a requirement for regular ongoing and random sample testing). The BIF saw enhanced enforcement as key to the successful implementation of this proposal. It believed this would lift across-the-board conformance with the Building Code and associated Standards, if applied to all building products and systems entering the market, whether locally produced or imported. The cost impact on products and systems available on the market was considered by BIF to be minimal. The amendment to Section 14G of the Act would place product and materials suppliers squarely in front of the Commerce Commission should their products be non-conforming.

An issue raised related to product assurance in New Zealand is whether criteria in the Code and associated standards may be a barrier to imports. The basis for such questioning is that tests carried out abroad by reputable testing agencies may not be sufficient on their own to achieve recognition by consent officials, despite the tested products having a long standing record of quality and unquestioned fit-for-purpose use in third countries, notably the U.S and Europe. Anecdotal evidence suggests questioning most often concerns durability when the products or systems are used in New Zealand conditions of high UV presence and often coastal high wind and salt air prevalence. The BIF believes significant evidence is available through BRANZ to support the existence in the Code of provisions relating to UV and coastal wind conditions. But such questioning can be addressed at two levels under the BIF proposal: a) at all levels of risk the stated compliance by the supplier under an amended Section 14G (provides clear grounds for action if a product in place was shown to be non-compliant) and b) Code Mark or accredited laboratory tests for compliance under the Code are available to all suppliers.

2. Impact of proposal

The requirement of suppliers to warrant products, materials and systems as compliant with the Code and associated Standards if used and installed according to manufacturer's directions, places an unequivocal onus on suppliers. A legal defence

under current law that a product, material or system brought to market was not declared by the provider to be compliant would no longer be available.

Could such a system have been a contributing factor to prevention of the circumstances which caused the fire spread at Grenfell Tower? The answer is probably no. This is because, as found by BRANZ in research directed at the cause of New Zealand's weather tightness problems, safety and performance of the completed build is dependent on several factors. These include the fit for purpose nature of products and materials used (covered by the BIF proposal); the selection of products and materials used; observance by builders/installers of the manufacturer's instructions for correct use of the products; and compliance inspections that the products and materials used are appropriate for the purpose.

The existing risk in New Zealand is that temptation to substitute cheaper and potentially non-conforming products for those that have been specified can lead to situations in which safety (structural, fire and weather tightness) are compromised. The BIF proposal gives added legal and scrutiny requirements to the process of ensuring that products and materials are fit for purpose in New Zealand conditions, provided they are used in accordance with manufacturers' directions for use and installation. The scale of assessment is according to whether they are rated high, medium or low risk to the integrity of the build. A builder or commercial constructor who uses products or materials outside those that are warranted as Code compliant brings into play the other factors that contribute to less than best practice performance of a structure. We note that an electronic inventory system operated by GS1 as an inventory tool for the building, grocery and pharmaceutical industry has products and material traceability qualities. Over time this may have application to strengthen the product assurance system, especially in the high risk category.

3. Enforcement

Provision exists in existing law for Commerce Commission action through the Sale of Goods and the Consumer Protection Act in respect of misrepresentation of building products. Local Government is also empowered to take action when substitution or use of non-conforming products are detected. Greater use of these powers is urged by industry.

Recommendations:

- 1) The Government take action to amend Section 14G of the Building Act to require manufacturers of building products and materials to warrant that these products and materials are compliant with the N.Z Building Code if used in accord with the manufacturer's instructions for use
- 2) The Government direct the Ministry of Business, Innovation and Employment take required steps in consultation with industry to implement the tiered structure for product assurance of building products and materials.

Appendix 1: Toward Strengthening the Product Assurance Framework (April 2017)

The Australian Building Codes Board describes non-conforming products as: Products that purport to be something they are not and are marketed or supplied with the intent to deceive those who intend using them

The issue of Product Assurance has been to the fore in the New Zealand and Australian construction sectors for the past two years, catalysed by a surge of non-conforming imported building products. In recent months this attention has been particularly focused upon steel conformance with Standards and the NZ Building Code, however other product areas have also come into question, including electrical cabling, glass, claddings, plumbing materials (especially pipe), and roofing tiles.

Auckland Council has voiced considerable concern around this issue, as confirmed in the Taylor Report (prepared for BOINZ and a number of industry organisations). The Council has also drawn attention to what it regards as an undue amount of product substitution on site without resort to regulatory consent and compliance processes. Such substitution can be difficult to identify unless product or material wrapping is present on site as an indicative guide of the items used.

This paper seeks to address the non-conformance issue by a strengthening of the product assurance framework through two areas. These are:

- Amending Section 14G of the Building Act to make absolutely clear a statement of compliance with NZ Building Code is mandatory for all products and/or systems brought to market;
- Recognising the internationally accepted three tiers of assurance with the additional possibility of making a minimum entry level for certain products and/or systems according to their considered importance to the integrity of a build.

These actions we believe would remove the ability of a manufacturer or importer to claim in the event of non-conformance that no assertion of compliance with the NZ Building Code was claimed and therefore no offence was committed. However, a mandatory statement of compliance would, in the event of non-conformance, unequivocally bring the manufacturer/importer clearly within the scope of the Fair Trading Act, Sale of Goods Act, Consumer Guarantees Act and the Building Act.

The proposed assurance layers to be covered in regulation, perhaps legislation, are captured in the diagram below:

THREE TIER ASSURANCE SCHEME		
SECTION 14G OF THE BUILDING ACT (NZBC Compliance statement requirement)		
FEATURE/ENTRY LEVEL	TIER	RISK
Simple compliance statement Base level entry Required by all products/systems as a minimum	First Party certification (Assurance provided by the producer or importer)	Low
Technical, opinion based Generally a snapshot in time with no regular ongoing testing For high importance, non-life safety critical, products or systems	Second Party certification (Assurance provided by an expert party eg. BRANZ, CPEng etc)	Medium
Audit based in conjunction with technical backup Regular ongoing testing incl random sample testing Independent body is also audited For critical products or systems that directly impact on Life Safety (Structure/Fire)	Third Party certification (Assurance provided by an independent body eg. ACRS; CodeMark certifiers etc, who are in turn part of a recognised scheme or are audited by a professional body such as JASANZ; IANZ; ISO	High

Issues to be defined going forward include identifying the ranges of products and systems that fit into each of these categories, where a minimum assurance level might apply, the wording for legislative change and associated regulation.

BIF sees the legislative and regulatory requirements of introducing such a scheme as minimal, in light of the benefits to be obtained by industry, consumers and regulators, and believe this can be implemented with little overall expense impact on the sector. Key to its success, however, will be the enhanced enforcement of the requirements.

It should be emphasised that this proposal is in no way intended to operate as a barrier to importation of products and materials. It is solely intended to lift across-the-board conformance with New Zealand Building Code and associated Standards and should apply to all building products and systems entering the market, whether locally produced or imported. The cost impact on products and systems available on the market should be minimal.

It is also our view that that any forum or consultation in regard to this should also discuss the issue of "Product Substitution" which is considered by industry participants, including BRANZ, and Auckland Council, to be occurring at a rate detrimental to quality industry performance.

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