



**Vinyl Council of Australia**

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Senate Standing Committee on Economics  
PO Box 6100  
Parliament House  
Canberra ACT2600

### **Non-Conforming Building Products in Australia**

The Vinyl Council of Australia is the peak association for the vinyl, or PVC, industry in Australia. Around 85 per cent of PVC is consumed in building and infrastructure products including pipes, conduit, cables, flooring, permanent formwork, window frames, profiles and membranes. Our members include both local manufacturers and importers of products - companies committed to advancing the quality and sustainability of their products.

As a common building material, PVC is likely to be found in almost every building in our community. Like with other thermoplastic building products, quality and adherence to standards are critical to provide consumer confidence that these products are fit for purpose, safe and durable. However, the growth in non-compliant PVC products that fail or lead to recalls is having a significant impact on:

- the reputation of all PVC products in certain applications;
- the ability of our members to compete with these lower cost, sub-standard products; and
- the safety and sustainability of the built environment.

This is part of a much larger issue within the building products industry and construction community. It commands significant public interest because it is putting the community at risk in terms of safety and incurs substantial economic impacts when product failure eventuates.

In addition to supporting the submission of the Construction Product Alliance, the Vinyl Council encourages the Committee to consider at the very least:

- Reviewing and strengthening evidence of suitability criteria in the National Construction Code (NCC);
- Encouraging the adoption of third party certification schemes as the preferred pathway for NCC compliance for safety critical building elements;
- Exploring solutions to facilitate verification of product certifications and document traceability;
- Considering a Point of Sale enforcement approach;
- Developing and implementing more effective surveillance regimes.

Further details of how our industry is currently affected and these potential actions to address the challenges of non-conforming building product are given in the attached.

Thank you for considering our submission.

Yours sincerely

Sophi MacMillan  
Chief Executive

## **1.0 The Scale and Impact of Non-Conforming Building Products in the PVC industry**

### **1.1 Extent of non-conformance in PVC building products sector**

Incidences of non-conforming PVC products have been brought to light in several sectors, particularly plumbing, permanent formwork wall construction and cables. Non-conformance has come in a number of forms:

- False certification where products claim to meet Australian Standards or third party certification schemes but analytical testing confirms they do not.
- Provision of third party certificates such as NATA accredited laboratory assessments for a product that does not match the actual product supplied to the market. For example, a fire performance assessment test certificate that applies to a product with a PVC wall of 2.5mm, but the product sold in the market is 5mm thick, resulting in potentially significant differences in fire performance.
- Use of products in buildings in ways which are not compliant with the National Construction Code, for example a product that may not be suitable for use in buildings over 3 stories as it does not meet fire safety performance requirements; or, some products may be suitable for use in sprinklered buildings, but not in unsprinklered.

Examples of these non-conformance issues include the 2014 recall of Infinity/Olsent cables from the market, which related to PVC insulated cable products falsely claiming they met Australian Standards when analysis allegedly showed that the PVC insulation was under-plasticised. These products were not fit for purpose, did not meet regulatory standards and present a high fire and human safety risk.

The WaterMark certification scheme for plastic pipes continually verifies local manufacturer's product for compliance in what might be considered a best practice third party certification approach. However, recently, imported PVC pipe fittings stamped as complying with the relevant Australian standards and quoting WaterMark licence numbers were found to be non-compliant when independently tested.

In both of these instances it fell to the local manufacturers of these products to investigate and have these products tested when the suspicion of non-conformance was raised. Local manufacturers have unfairly borne the cost of bringing these cases to light to ensure public safety, while at the same time have to compete with cheaper, inferior non-compliant products in the market.

For the PVC sector, one of the issues of most concern regarding non-compliant product is fire safety given that PVC is a thermoplastic. In the case of PVC windows, a growing product segment in Australia because of their high energy efficiency performance, there are concerns of non-conforming product failing because of insufficient UV resistance in the PVC formulation. In the case of PVC plumbing and pipe, failures can cause contamination of the water system and be a public health concern. Large scale failure from poorly formulated, cheap product has occurred in other jurisdictions overseas and wiped out virtually the entire market for the product because of damage to consumer confidence.

## 1.2 Gaps and issues in current regulatory & policy frameworks

There are many facets to the issue of non-compliant building products and we are therefore of the view that it requires a cohesive, federal approach to address them. We would like to see a joint industry / government consultative process to review the issues and to develop a holistic strategy to strengthen compliance across a broad spectrum of building products in the Australian market.

The National Construction Code (NCC) of Australia is a very comprehensive document; it might be argued that it is one of the world's leading building regulations. The Code supports innovation by offering alternative building solutions in good faith rather than allowing only prescriptive solutions (Deemed-to-Satisfy (DTS)).

'Alternative solutions' provide more choice of construction and product solutions; however, they also lead to greater complexity in verifying product performance in terms of critical aspects such as the fire resistance and smoke limitation requirements under the NCC's Volume 1 Section C.

Whether a DTS solution or an Alternative Solution, the NCC outlines the methods available to demonstrate evidence of the suitability of products and materials. Acceptable forms of evidence (in Victoria) include<sup>1</sup>:

- a report issued by a Registered Testing Authority (Registered with NATA or an authority recognized by NATA)
- a current Certificate of Conformity issued under the Australian Building Codes Board CodeMark scheme
- a Certificate of Accreditation issued by the Building Regulations Advisory Committee
- a certificate issued under section 238 of the Act by a registered engineer in the appropriate discipline
- a current certificate issued by a product certification body accredited by the Joint Accreditation System of Australia and New Zealand (JAS-ANZ)
- any other form of documentary evidence that correctly describes the properties and performance of the material or form of construction, and adequately demonstrates its suitability or that a calculation method complies with an ABCB protocol.

Given the range of pathways to demonstrate compliance, surveillance is clearly challenging and recent experience has shown that regulators are not adequately resourced to ensure product compliance is being met when the product is *in situ* in the building. As said above, certificates may be false or mis-represent the actual product used, or are not being assessed as evidence of compliance with NCC requirements once the product is *in situ*.

The report released by the Metropolitan Fire Brigade on the Docklands Lacrosse building fire reinforced the seriousness of the issue. Among the MFB's recommendations is a call for designers and certifiers to adopt building products with current certificates, and ensure compliance with all conditions imposed on the certificate. This would mean they must have a clear understanding of how and where the product is used.

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<sup>1</sup> From *Suitability of materials for construction purposes*, June 2015, Victorian Building Authority

### 1.3 Impact of NCPs on PVC value chain

Because NCPs 'cut corners' in terms of manufacturing and quality control, they are almost always cheaper than competing products. In the case of Infinity cable, the alleged under-use of plasticisers in the PVC formulation would have reduced the cost of the materials for the product enabling the imported product to be offered cheaply.

The impacts when a non-conforming product fails on the PVC value chain in Australia include:

- Undermined confidence in the performance of all PVC products
- Damage to reputation of all suppliers of that product type
- Inability for local manufacturers meeting higher production quality standards to compete for business, affecting production levels and employment
- Significant financial risks to wholesalers, retailers, home owners, builders, plumbers and contractors.

In addition, local manufacturers have carried the costs of investigating, testing and raising awareness of NCPs in the market with regulatory authorities. It is often the case that by the time the non-conformance has been evidenced and the consumer safety risk identified so that any necessary regulatory action can be taken, the original supplier of the products has 'gone underground'. Implementation of recalls and remedies then falls onto installers, builders or other parties in the supply chain, who bear the costs of redress.

### 1.4 What the industry is doing to address NCPs

We recognize that addressing NCPs requires a joint effort by industry and government. The PVC industry in Australia has engaged in development of a range of standards, product quality accreditation schemes and third party certification schemes (TPCS).

- The **WaterMark** Certification Scheme is a mandatory certification scheme for plumbing and drainage products, such as PVC products, to ensure that the materials and products used are fit for purpose and appropriately authorised for use in plumbing installations. The products are certified through the WaterMark Certification Scheme, listed on the WaterMark Product Database and identifiable by the WaterMark trademark.
- A **Best Environmental Practice** third party quality accreditation scheme for manufacturing PVC products was launched in 2010 in conjunction with the Green Building Council of Australia which requires verification to be completed by a JAS-ANZ or equivalent accredited auditing body. Accredited products are able to apply for a licence mark from the Vinyl Council and listing on the Best Environmental Practice PVC on-line register.
- A new **Industry Code of Practice** is currently being finalised for PVC window profiles to strengthen quality compliance. It will require third party NATA accredited testing of the profiles to stringent weathering and impact resistance standards in order to demonstrate compliance.
- The Vinyl Council has also submitted a proposal to Standards Australia nominating an Australian expert to an ISO Technical Committee's working group. The working group intends to develop a technical report to provide internationally accepted guidance on the fire characteristics and fire performance of PVC materials used in building applications.
- The Council is a member of the **Construction Product Alliance** and supported the development of the *Procurement of Construction Products: A guide to achieving compliance* published by the Australasian Procurement and Construction Council in 2014.

## 2.0 Recommendations for improvement in building product conformance

The Vinyl Council is of the view that addressing building product non-conformance requires a cohesive federal approach in consultation with industry. Given the public interest at stake and the complexity of the issue, a holistic strategy addressing a number of facets of the current regulatory and surveillance regimes needs to be developed. At the very least, we recommend that this should consider:

- Reviewing and strengthening evidence of suitability criteria in the NCC, removing areas of ambiguity in relation to safety critical components of the built environment and improving confidence in compliance assessment. Explicit certification requirements for critical building elements – possibly mandatory for some – is needed as evidence of compliance with relevant NCC requirements, such as fire safety performance.
- Encouraging the adoption of third party certification as the preferred pathway for NCC compliance, whether through the existing Codemark scheme or robust industry schemes. Codemark seems to be an underutilized scheme, yet with appropriate investment it could be a strongly recognized, robust mark of conformance, possibly mandatory for some building elements.
- Exploring solutions to verify product certifications and document traceability, such as through accredited Product Registers or adoptions of technologies such as QR codes to address counterfeit certificates.
- Considering Point of Sale enforcement so that the onus to ensure products are compliant with relevant standards clearly rests with the importer/distributor/wholesaler, requiring them to obtain and check appropriate evidence of compliance with standards before supply to the market and that the product is fit for purpose. Subsequent check points in the supply chain should also be identified and enforced.
- Development and implementation of more effective surveillance regimes at key points of the supply chain from manufacture to installation. Such regimes may be components of third party certification schemes (TPCS), wholesale/retail sourcing and supply assessments and/or compliance surveillance at point of construction.

|                           | <b>Types of Non-Compliance</b>  |  |  |
|---------------------------|---|--|--|
|                           | <b>Fraudulent Behaviour</b><br>(false or misleading certificates)   | <b>Quality Compliance</b><br>(Non-certified product)   | <b>Non-compliant use</b><br>under the NCC  |
| <b>Responses required</b> | Improved frameworks for vetting, reporting abuse, higher penalties<br>Adoption of technologies for verifying product certifications and document traceability<br>Accredited product registers | Mandatory certification for safety critical products<br>Point of sale enforcement and clear check points in the supply chain for verifying product compliance & fitness for purpose<br>Improved surveillance systems | Improved evidence of suitability provisions in NCC<br>Improved surveillance systems on construction sites<br>Strengthen adoption of Codemark as a TPCS<br>Education on certified product registers, TPCS etc |

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