

BUILDING CODE AMENDMENTS 2018

JOINT SUBMISSION FROM ENGINEERING NEW ZEALAND, ACENZ, SESOC AND ACA

Engineering New Zealand, The Structural Engineering Society NZ (SESOC), Association of Consulting Engineers (ACENZ), and the Australasian Corrosion Association (ACA) are together committed to working with the regulator so that designers can design and monitor the construction of structures that are both safe and durable.

In recent years designers have been asked to provide explicit compliance for durability of materials used in a construction projects. However, designers and Building Consent Authorities have faced significant barriers when trying to confirm compliance.

Severe limitations in the current Building Code as well as a lack of clarity around roles and responsibilities around materials testing and maintenance are causing a significant risk that materials used in construction are not sufficiently durable.

Building Consent Authorities and designers all want to see a clearer focus on durability from the central regulator. We want to see a compliance pathway that is complete and well understood. We welcome additions to the number of materials that have an acceptable building code solution for durability, but we also see a clear need for system improvements across the whole design, supply and construction chain.

As part of the broader system review on durability we would like to see

- clarification of the roles and responsibilities relating to the application and testing of durability coatings
- the promulgation of effective Quality Assurance procedures for protective coatings

- sector-specific durability guidance to cover each of the infrastructure, commercial building and residential building sectors
- client awareness of material maintenance responsibilities
- joint regulator/industry guidance on good practice methods for ensuring durability of materials used for structural integrity.

REASON FOR THIS SUBMISSION

Engineering New Zealand, ACENZ, SESOC, and ACA wish to support the inclusion of a new acceptable solution for durability. Having an acceptable solution to show durability compliance for mild steel is long overdue and this first step is welcomed by industry. We have completed the submission form providing comments on questions relating to B1 and B2. Our submission confirms our general support for the acceptable solution but believe the proposed citing on its own doesn't provide a clear and adequate compliance pathway for designers, Producer Statement authors or BCAs.

Additional wording is needed to explain the limitations to the cited standard TS 3404:2018 "Durability requirements for steel structures and components" because SNZ TS 3404:2018 can't guarantee 50 years durability for steel outside the vapour barrier that is also inaccessible and hidden from view. Relevant examples of this are steel components of decks, verandas and secondary façades. Such components are likely to fail under B2.3.1 a iii) and therefore should be exempted explicitly.

As part of the acceptable solution we would also like to see

- an explicit reference to AS/NZS 2312 "Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings"
- detailing of the acceptable solution for steel to a similar level as that provided for timber.

RECOMMENDED DURABILITY-RELATED BUILDING CODE ADDITIONS

Steel

We recommend that the Building Code is further amended as soon as possible to include further straightforward acceptable solutions for steel covering

- unprotected steelwork for adequately enclosed locations
- scheduled inspections of enclosed steelwork
- interior steelwork that is protected by a vapour barrier.

Other materials

We recommend

- a broad study of materials, including protective and fire-resistant coatings, commonly used in structures for structural integrity is carried out
- the provision of acceptable solutions for those materials.

RESPONSIBILITIES AND EXPERTISE

It is important that the correct people in the design, supply and construction monitoring chain are nominated as being responsible for the specification, delivery, construction and maintenance of materials to provide the necessary durability. Designers do not typically have the expertise, experience or specialist equipment necessary to carry out effective construction monitoring or testing of materials with respect to durability. We welcome a review of appropriately assigned responsibilities related to the durability of materials.

Further, there are low numbers of experts available for the design of complex, building code compliant, protective coatings for steel, especially where there are aggressive environments and/or the structures themselves are complex. We would welcome the regulator's involvement in ensuring the competence and future availability of sufficient numbers of experts involved in the protective coatings industry.

BUILDING SECTOR VARIATION

We would like to see acknowledgement that there are differing requirements and practices for durability design, application and QA across different building sectors – such as infrastructure, commercial buildings and residential buildings

MAINTENANCE

Maintenance of materials is often a key requirement to achieve the required durability life of materials. Owners and of structures are not always aware of the maintenance requirements of the materials used in their structures. Whilst engineers and other competent professionals provide maintenance plans at the design stage, we welcome a review of the application of maintenance plans post construction and on-selling.

GOOD PRACTICE GUIDELINES

We would welcome involvement from the regulator in the production of good practice guidelines on durability for structures in the residential and commercial building sectors. Guidance (and training) is needed to inform all participants in the supply chain relating to durability.

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