

ENVIROSPEC Protocol

Sustainability - CodeMark - Electronic Specifications

The provision of environmentally sustainable solutions, which are credible and designer-friendly, represents one of the most significant challenges facing building product-suppliers. Speaking at the recent Melbourne Infrastructure Exhibition, Rod Johnston of ENVIROSPEC (the sustainability division of Electronic Blueprint) outlined the three major developments which affect the selection of appropriate building products - Life-cycle based Ecolabelling schemes; CodeMark Third-Party Certification of Alternative Solutions under the Building Code of Australia (BCA); and Electronic Specifications.

Sustainability issues are taking on a major focus in building design and certification, with the Building Code of Australia adopting the energy efficiency provisions of BCA Volume 1 Part J and BCA Volume 2 Part 3.12. To date, the approach in the BCA has been to concentrate on the in-service performance of buildings, making provision for both Deemed-to-Satisfy Solutions and Alternative Solutions (based on computer simulation and the published verification methods). This is a soundly-based decision, given that, in many cases, in-service energy performance far outweighs the other energy expenditure associated with building products. However, there is now a strong push to consider the energy involved in winning the raw materials, manufacture, transport, construction and demolition of building products.

The Building Products Innovation Council (BPIC) is currently collecting data for the creation of a Life Cycle Inventory (LCI). This data will be used to populate design software, enabling designers to minimize environmental impacts. It will also be used to provide ecolabels for building products. However, there is a real danger that the ecolabels may fail to provide enough precise data on the in-service performance for each product, under a range of applications and climates. If unchecked, this could lead to poor decision-making and the selection of products, which appear to be environmentally friendly, but are in fact inappropriate for the actual application. The ENVIROSPEC Protocol has been formulated to provide for the orderly collation of ecolabels and other sustainability information, in a technically credible format, geared specifically for use by designers, and tailored for marketing innovative building products in particular applications.

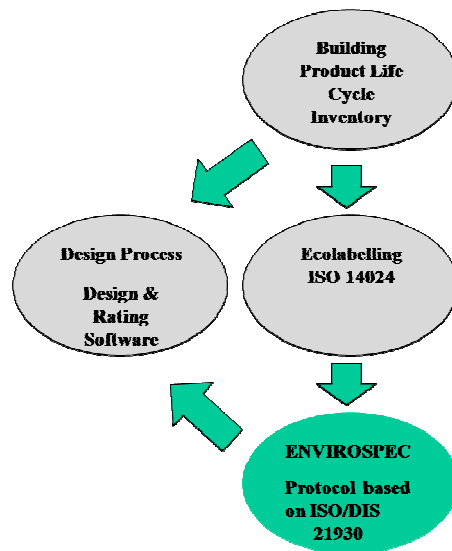
This Protocol deals with the effects of a building product on the sustainable operation of the building into which it is built, in the context of what is both common practice and what is permissible under the Building Regulations. It provides for the collection of data for subsequent publication in;

- Environmental Declarations (life-cycle analysis and other environmental data)
- Environmental Benchmarking (the comparison of a product's life-cycle analysis and other environmental data to those of the most common acceptable alternative "benchmark construction).

Environmental Declarations and Environmental Benchmarking should account for the sustainability impacts of the manufacture, transport, construction, demolition and re-use of building products, together with their in-service performance. They should comply with ISO/DIS 21930

There is clearly a need for product specifications to:

- Honestly identify products that contribute to sustainability;
- Clearly quantify the contribution to sustainability; and
- Advance strategies to create awareness; and distribute reliable technical data to Architects, Engineers and Builders.



While design for sustainability continues to gain momentum, it must be remembered that it is only partly regulated by the BCA.

Other complex changes to the BCA, and various Australian Standards called up therein, have led to a situation where Building Surveyors, Architects, Engineers and Inspectors can no longer be confident that particular building products are capable of achieving the performance specified in the BCA.

One response has been the introduction of the CodeMark Scheme by the ABCB (Australian Building Codes Board). The scheme involves the accreditation of Third Party Certifiers to issue Certificates of Conformity for the suitability of building products in specified applications. Assessment is against specific clauses of the BCA, either by Deemed-to-Satisfy Provisions, or as Alternative Solutions. The accreditation is the responsibility of JAS-ANZ (Joint Accreditation System of Australia and New Zealand).

It is important to understand that CodeMark can only deal with compliance with particular clauses of the BCA. It cannot deal with issues that are outside the scope of the BCA. For example, it can deal with issues of energy minimization (and hence minimizing greenhouse gas emissions) via BCA Volume 1 Part J and BCA Volume 2 Part 3.12, but it cannot deal with issues related to recycling rain water, which is not covered by the BCA.

CodeMark certification requires the holder to have “effective control” over the manufacture, testing, packaging, branding, delivery, installation and commissioning of the particular products. Whilst most of these may be achieved by well managed companies, operating with effective quality assurance systems, the installation and commissioning aspects offer a particular challenge to manufacturers and suppliers. The most effective method of demonstrating such control is the diligent operation of a quality management system complying with ISO 9001. This requires, among many other matters, the preparation of a Quality Manual and Standard Operating Procedures; and provision of an effective record-keeping system. It involves regular Internal Management Audits, Management Reviews, Training, Nonconformance Reporting, Corrective Action and Preventive Action.

Building Surveyors are well aware of the risks associated with approving faulty construction and inappropriate product selection. On one hand, the advent of design for sustainability will increase the likelihood of spurious or inappropriate claims of “greenness”. On the other hand, the orderly presentation of ecolabelling data will assist in abating this risk. The gradual acceptance of the CodeMark scheme will further add confidence in the performance of reputable products.

For further details of the ENVIROSPEC Protocol - www.electronicblueprint.com.au

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Page 2