

The performance based approach for standards for sustainable construction

2011-11-30

The aim of the Construction Products Directive (CPD), and now its successor Construction Products Regulation (CPR), has been to provide the means for satisfying national requirements by the use of harmonised European product standards, and so to remove barriers to trade. Responsibility for regulations for the performance of construction works lies with Member States.

Standards development in CEN for the construction sector has progressed tremendously in the last decade in response to the CPD. Over 400 standards have become harmonised (hEN) and are cited in the OJEU and more are under development. Products placed on the market, and conforming to a hEN, enable construction works such as buildings and bridges to meet national regulations if the products have been properly selected and incorporated into the works. The national regulations must come within the scope of the Essential Requirements of the CPD (or, from 1 July 2013, the Basic Requirements for Construction Works (BRCW) of the CPR). It is important to understand that construction products themselves cannot satisfy the Essential Requirements: they are intermediate products that enable the construction works to satisfy the Essential Requirements.

The two key elements of a performance-based harmonised product standard are:

- ◆ the definition of the characteristics of construction products related to the performance of construction works to be met in all Member States, and
- ◆ references to a single test or assessment method for measuring the value of each characteristic.

As a matter of principle, standards do not prescribe the value of these characteristics, nor the criteria for deciding on the suitability of a particular product, but provide the means to assess them. Prescription and criteria are matters for regulations, usually set by national authorities, or the user e.g. architect, building owner.

Other standards in the CEN construction portfolio deal with matters of design e.g. the structural Eurocodes. These standards provide a common European approach to safety and durability. They follow a similar principle of definition and procedure, with reference to harmonised product standards. The Eurocodes have the facility to meet the requirements of individual Member States by the use of Nationally Determined Parameters.

In parallel to these developments new challenges have arisen, firstly with specific environmental concerns and then with the wider subject of sustainability. The current response of CEN lies primarily in the fields of regulated dangerous substances and of assessment of sustainability. However, the same principles of definition and reference apply to standardisation in these fields.

For dangerous substances the aim is to define the relevant types of performance and to establish methods of test (including sampling and evaluation) applicable to all products.

The acceptability of measurements concerning a product will be judged against European legal requirements.

The first focus of work on assessment of sustainability lay with Environmental Product Declarations for products as a means of trying to ensure that information provided to the user is determined on a consistent, coherent and comprehensive basis, and that further barriers to trade are not created. Again, definition and means of measurement are the key principles: evaluation of suitability is a matter for regulatory authorities or the user.

The value of an Environmental Product Declaration can only be assessed properly in the context of the performance of a whole construction work, especially a building. It is the life cycle impact of the whole works that is of concern. The work of CEN/TC 350 therefore addresses "*Assessment of sustainability of construction works*" and includes not only environmental aspects but also social and economic aspects, the three pillars of sustainability. Again, definition and means of measurement are the key principles: evaluation of acceptability is a matter for regulators or the user.

Standards are now being published in the field of sustainability and over the next few years a complete suite of standards will emerge. This package of standards supports the assessment of sustainability of buildings and other construction works. The latest situation may be found in the report of the Construction Sector Rapporteur:

<http://www.cen.eu/cen/Sectors/Sectors/Construction/Network/Pages/default.aspx>