

2. PANELS FOR USE IN CONSTRUCTION

2.1 Requirements

Probably the single most important piece of European technical legislation for the construction industries in the last few years has been the **Construction Products Directive (CPD)** which was adopted by the Council of Ministers in 1988. This was given legal force in the UK by the Construction Products Regulations in 1991 and the Construction Products (Amendment Regulations) of 1994. This set of six **Essential Requirements** on the performance of construction works are stated in the CPD; these are:-

1. mechanical resistance and stability
2. safety in case of fire
3. hygiene, health and environment
4. safety in use
5. protection against noise
6. energy economy and heat retention.

Depending on the intended use of the panel product and the particular regulatory requirements, all, some, one, (or even none) of these requirements may apply. The connection between these requirements which relate to buildings, and the CPD, which relates to building products, is set out in a series of **Interpretative Documents**. **Thus wood-based panel products are required to demonstrate that they can enable the building works to comply with the Essential Requirements**, and are therefore materials which are fit for their intended purpose. The most straightforward way of demonstrating this is by compliance with **the Harmonised European Standard** (EN 13986): this provides the mechanism by which specific products such as plywood, flaxboard, particleboard, MDF, OSB, CBPB and fibreboard are able to satisfy the CPD. Annex ZA of EN 13986 defines the procedures necessary for a **CE mark** to be affixed to the product.

In complying with the requirements of the Harmonised European Standard for wood-based panels, which is written in terms of both material specifications and performance requirements, manufacturers must demonstrate conformity of the product with the relevant technical specification which will include some degree of testing and/or certification possibly by a third party; such **attestation of conformity** of a product to the relevant harmonised standard is a legal requirement under Chapter V of the CPD. Where third-party certification, inspection and testing is required to support the CE mark, this must be carried out by bodies designated for the purpose and notified to the European Commission: these agents are termed **Notified Bodies**. If this is achieved, then the manufacturer **may** use the CE Mark; its use is not mandatory in the UK. Particular products which are not manufactured to one of the standards listed in the harmonised standard may be granted a **European Technical Approval (ETA)**: such products may then be CE marked. Panels manufactured outside the EU and then imported may be CE marked provided that it can be demonstrated that they comply with the Harmonised European standard; this includes compliance with the specified quality control procedures.

Much confusion has arisen over the significance of the CE Mark. Basically it is only a symbol of conformity with the Essential Requirements, or those particular requirements for an intended end use. Therefore it is not a mark of quality, and it is not intended that it be interpreted as such. One very important point which must be appreciated is that EU Member States have the freedom, where different levels of performance are included in a standard, to opt for whichever level they wish for the purposes of legislation. This means that if the higher of two levels is adopted in a particular EU Member State, boards complying with the lower level will not satisfy the legislation in that country, despite bearing the CE Mark. Conversely, a Member State may indicate that its law or building regulations do not require compliance with a specified level for a given property of the product. In this case, there is provision for "no test performance" to be declared for that property in the market of such a Member State. Once the CE Mark is affixed to a product, the burden of proof of non-compliance of the product with the Harmonised European Standard or the ETA passes to the national enforcement authority which, in the UK, is the **Trading Standards Department**.

Perhaps the single most important change that has come about with European Standardisation is the change from voluntary to mandated specifications for all products used in construction. British Standards have always been voluntary: producers and specifiers have been free to use them or make other arrangements should they so wish. With the introduction of the Construction Products Directive, wood-based panels for use in construction **must** comply with the requirements of the Harmonised Standard in terms of both material properties and, where appropriate, performance requirements. Likewise, the specifier **must** specify and the user use in construction only those panels that comply with the requirements of the Harmonised Standard.

It should be appreciated that although specification standards have changed very considerably both in their format and in the presentation of values with the introduction of the Construction Products Directive, these changes have only minor effect in terms of **UK Building Regulations**. Information on UK Building Regulations can be found at the following web sites:-

For England, Wales:- <http://www.planningportal.gov.uk> and go to the Professional section and technical guidance.

For Northern Ireland:- <http://www.dfpni.gov.uk/index/law-and-regulation/building-regulations/br-technical-booklets.htm>

For Scotland via the technical handbook section:- <http://www.sbsa.gov.uk>.

For the Republic of Ireland the Technical Guidance Documents can be found at:- www.environ.ie/en/TGD

Other information can be sought from the Regulations and Codes section of www.trada.co.uk

While the switch to European standards for the production and testing of wood-based panels is complete, an anomaly arises with regard to their use in structural design, where the former British system involving **permissible stress design** and the new European system based on **limit state analysis** are alternative systems in the current **transitional period** of change. These alternative procedures for structural design are discussed in detail in Section 2.2 of PanelGuide.