

Construction Product Regulations and the Impact on Data Cabling Infrastructure

White Paper

The EU Construction Products Directive has been on the horizon for quite some time and as of 1st of July 2013 the Construction Products Directive became regulated and therefore governed by law in each country signed up to it, including the UK. So far this hasn't overly affected the structured cabling market due to the lack of harmonised testing standards across the EU, however this is about to change.

The extension of the Construction Products Regulations (CPR) to power and communications cables (both metallic and optical) is expected to be implemented in the middle of 2015.

What this means is suppliers of communications cables that are intended for installation within buildings, must obtain certification to a given EuroClass of fire performance to allow it to be supplied across borders in the EU. This in part will be tracked by the use of CE marking.

This certification will be mandatory for cable products that are shipped across borders within the EU including the initial shipment into the EU. By way of managing the process, it will be the responsibility of the cable system supplier to maintain a 'technical library' of all certification and test data within the EU.

If the cable products brought into the EU (via distribution) do not have the relevant certification then the responsibility for ensuring the products meet the requirements of the CPR and therefore creating and maintaining the 'technical library', falls to the distributor that completes the first import into the EU.

CE Marking and Testing

In order to allow CE marking on a product under the CPR, a number of preconditions exist:

- A product standard for the given product must be available (for cables this will be the EN 50575 standard)
- The product standard must be formally recognised in the EU as a so-called HARMONISED standard under the CPR
- Notified bodies must be accredited by the member states. The notified bodies are required for the "assessment and verification of consistency of performance".

The initial hurdle has been that it requires Notified Bodies to perform the required testing, factory production control and certification.

At this stage there are No Notified Bodies in place although this could potentially change quite rapidly.

The next hurdle will be that the Notified Body has to be an independent third party that has been authorised by the national authorities by one of the EU member states to perform the specified task.

Notified bodies can be "product certification bodies", "factory production control certification bodies", or "notified testing laboratories". Organisations such as Delta Labs are also intending to be a 'Notified Testing Laboratory'.

Depending on the declared class of reaction to fire (as defined in EN 50575), the notified bodies are required for initial type testing/approval, and/or inspection of the factory and the production control (initial inspection and type approval, audits, continuous inspection).

The accreditation of the notified bodies cannot take place until the relevant standards are available from Cenelec and have been harmonised under the CPR.

The whole process of certification and labelling is defined in the harmonised standard EN 50575 which is now ratified by CENELEC and published as BS EN 50575, but now must be approved by member states and then accepted by the European Commission at one of their bi-annual meetings (and expected, but not guaranteed, to be at their meeting in June 2015). At this point, once it is listed in the OJ and defined at an "application date", EN 50575 can be regarded to be the starting point for the entire process for power and communications cables under the CPR.

Once the product standard EN 50575 is harmonised there will be a transition period (= time for implementation) of approx. 1 year, after which CE marking will be obligatory, (however this may be extended to 36 months if either the country's or potential Notified Bodies are not able to react in time to complete testing within the given timescales).

NB. It will be illegal to apply CE marking to any cables that have not undergone this required testing.

Cable Classifications

The classification of fire performance as the CPR comes into force is to be based on "reaction to fire". BS EN 13501-6:2014 defines seven basic EuroClasses Aca, B1ca, B2ca, Cca, Dca, Eca and Fca by reference to the measured results when cables are subject to a range of fire performance tests. These "base standard" tests are specifically BS EN 60332-1-2, BS EN 50399 and BS EN ISO 1716.



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Therefore initial type (and testing of products sampled at audits) which is required for Classes A to E. Classes A do not burn and F is the only class which does not require involvement of a notified body as they are deemed to be Flammable and therefore do not have any test criteria attached to them.

Additionally the generation of smoke (s), flaming droplets (d) and acid gases (a) are addressed by the results other tests according to BS EN 61034-2, BS EN 50399 and BS EN 50267-2-3 respectively.

Summary

This is one of the most significant if not THE most significant development to affect the structured cabling market in Europe in the last 20 years.

One effect is going to involve re-editing a number of other standards such as BS EN50174-1 along with UK national standards BS 6701 and BS 8492 over the coming years, it will also involve further work on the recently published 3rd Revision of BS 7671, of the Electrical Wiring Regulations. One major impact of this enhanced certification process should be the improvement of the overall quality of the products being used in buildings, part of which will hopefully mean the removal of cheap and counterfeit products being brought into the EU market.

Companies trying to supply a low cost mix and match set of products that are sourced from multiple suppliers will now be subject to exactly to same rules and have to go through all the same procedures as the leading brands. The question to ask is whether they understand the requirements and have the technical and administrative resource to comply with the regulations, therefore yet another reason to use a trusted leading brand such as Connectix Cabling Systems.

Reference Standards

BS EN 50575

Power, control and communication cables — Cables for general applications in construction works subject to reaction to fire requirements.

BS EN 13501-6

Fire classification of construction products and building elements Part 6: Classification using data from reaction to fire tests on electric cables.

BS EN 50399

Common test methods for cables under fire conditions. Heat release and smoke production measurement on cables during flame spread test. Test apparatus, procedures, results.

BS EN 60332-1-2

Tests on electric and optical fibre cables under fire conditions. Test for vertical flame propagation for a single insulated wire or cable. Procedure for 1 kW pre-mixed flame.

BS EN ISO 1716

Reaction to fire tests for products. Determination of the gross heat of combustion (calorific value).

BS EN 61034-2

Measurement of smoke density of cables burning under defined conditions. Test procedure and requirements.

BS EN 50267-2-3

Common test methods for cables under fire conditions. Tests on gases evolved during combustion of materials from cables. Procedures. Determination of degree of acidity of gases for cables by determination of the weighted average of pH and conductivity.

BS 8492

Telecommunications equipment and telecommunications cabling – Code of practice for fire performance and protection.

BS 6701

Telecommunications equipment and telecommunications cabling – Specification for Installation, operation and maintenance.

BS 7671

Requirements for Electrical Installations, Wiring Regulations.

BS EN50174-1

Information technology. Cabling installation. Installation specification and quality assurance.

