



# EC CablingNews

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## Newsletter on International Standardisation

By Erik Bech – November 2010

The last meeting in JTC 1/SC 25/WG 3 was held on 18-21 October 2010 in Seattle. This work group is responsible for cabling standards, where ISO/IEC 11801 is the most important.

This generic standard now consists of ISO/IEC 11801 ed. 2: 2002 plus amendment 1: 2008 and amendment 2: 2010. The standard is now very difficult to read because the amendments are just corrections to the basic document. A task force was formed to edit a consolidated document, where the basic document and the amendments are merged. This document will still be edition 2 of the standard and there will be no new technical requirements in the standard.

Work on the next edition 3 of the standard is expected to start about one or two years from now (requirements for cabling of support to 40GBase-T and 100GBase-T). It is expected that the standard will be separated in a general document and documents for office, industrial, homes, and data center cabling. This is the same structure as used in the European standard for generic cabling, EN 50173.

In IEEE there is still ongoing work to develop the next generation of Ethernet with speeds of 40 G and 100 G. The transmission media is mainly optical fiber, where a reach of 150 m is expected on multi mode fiber. On copper a reach of 7 m is obtained by use of twinax cables. Further developments on longer reaches on copper are not expected now, because the existing products, which deliver 10 G on copper class E<sub>A</sub> channels, are not sold well.

The standard for cabling in data centers is future ISO/IEC 24764. The third committee draft of this document was approved, and a final committee draft will be issued after the meeting. An amendment was prepared during the meeting. The content of the amendment is to allow more link segments to be connected in series. This will be possible as long as the channel requirements for the complete channel are complied with.

The standard for planning and installation will be issued as ISO/IEC 14763-2. In the meeting many comments to the draft standard were resolved, but due to time constraint, the document was not finished. It was decided to let the convener propose resolutions to the remaining comments and issue the document as a committee draft.

There is an ongoing project for energy efficiency. The purpose is to investigate where cabling may help in saving energy. This may be the case where low loss cabling can save complexity and power in the electronic applications. An ad hoc group to cover this issue was set down.

A task force, who is working with modeling, is currently developing a Technical Report - the future IEC 61156-1-3. The idea is to calculate channel performance based on component performance. The document at its current status shows how to calculate NEXT and FEXT dependent of the length of a channel. It is wished to also show how to calculate length dependency of attenuation and return loss. Length dependency of attenuation is straight forward, while the calculation for return loss is difficult. Results of this work is expected at the next meeting.

The next meeting in JTC 1/SC 25/WG 3 is planned for Berlin 2-6 May 2011.

The general IEC meetings were also held in Seattle the weeks before the SC 25 meeting. In the meeting for testing connectors, SC 48B/WG 5, comments were resolved for a document for testing Category 7A connectors up to 1000 MHz. This document will be the future standard IEC 60512-28-100. Tests are specified using the mixed mode method, where baluns are not used. Many comments were resolved (especially coming from Denmark) and there is also a request of extending the frequency range for the testing up to 1500 MHz. This document will be issued as a new committee draft after the meeting.

Another draft under development is draft IEC 60512-99-001, which is defining a test for testing unmat-ing under load for data connectors. This test is relevant for data networks, which supply power to elec-tronic devices connected to the network (Power over Ethernet). The requirements in the draft docu-ment have been very unstable. After the meeting a new committee draft will be issued where the pro-posed current will be 300 mA in each conductor, and the connector shall sustain 50+50 insertions with-out any damage and without impairing the contact resistance.

In our last Newsletter it was mentioned that the cabling standards in CENELEC are renumbered:

- EN 50173-1 Information technology-Generic cabling systems – Part 1: General requirements
- EN 50173-2 Information technology-Generic cabling systems – Part 2: Office premises
- EN 50173-3 Information technology-Generic cabling systems – Part 3: Industrial premises
- EN 50173-4 Information technology-Generic cabling systems – Part 4: Homes
- EN 50173-5 Information technology-Generic cabling systems – Part 5: Data centres

All these standards were issued in 2007 and they do not cover the new Categories 6A and 7A and Classes E<sub>A</sub> and F<sub>A</sub>. The new categories and classes are covered in proposed amendments, which are issued and for vote this year. The first amendment, EN 50173-3/A1, was issued in November 2009 and here the channel requirements for the new classes are found.

The standardisation work continues and EC Cabling will also continue to keep you informed in our Newsletters, which will be issued whenever important developments are done.

