



ACI/132/12

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The constructional, mechanical and electrical requirements for Category 5e cables

Category 5e is more than a performance standard. The constructional, mechanical and electrical requirements for Category 5e cables are defined within national and international standards. The specific cable standards associated with each of the primary standards ANSI/TIA 568, ISO/IEC 11801 and BS EN 50173 are outlined below and all refer to annealed copper as the conductor material.

Further reading of these standards will confirm that the reference to copper means pure annealed copper and does not include clad materials or alloys.

- ANSI/TIA 568-C.2 refers the user to ANSI/ICEA S-90-661-2006.
- ISO/IEC 11801 Edition 2 refers the user to IEC 61156-5-1 which further refers to IEC 61156-1.
- BS EN 50173: refers the user to BS EN 50288-3-1:2003 for unshielded cables and BS EN 50288-2-2:2003 for shielded cables.

Furthermore, the TIA invoke a minimum wire diameter in the finished cable of 0.485mm therefore any cable or packaging that references the TIA 568 standard cannot comply if the stated conductor diameter is for example 0.48mm or as seen more recently, in the UK market, have conductor diameters of 0.475mm.

A number of these reduced diameter copper cables are also under investigation as they, like CCA, will have low frequency performance issues in longer lengths.

If you have information regarding the mis-selling of electrical or data cable or would like some advice on defective cables please contact the ACI on 020 8946 6978 or email info@aci.org.uk. For further information about the ACI visit www.aci.org.uk

The Approved Cables Initiative is addressing the issue of unsafe, non-approved and counterfeit cable entering the UK marketplace. Anyone with information or concerns about a suspected faulty or counterfeit cable should contact the ACI who will test samples and if found to be unsafe supply details to relevant industry regulators and legislators. ACI can also provide guidance where appropriate to installers.

For suspect importers, manufacturers and distributors, the ACI is direct in its approach to investigate and publicise the results. This is the first initiative of its kind in the electrical industry with the framework to proactively communicate, educate, investigate, eradicate and legislate.

The ACI is an industry-wide working group with supply chain representative bodies including Electrical Distributors Association (EDA); Electrical Contractors Association (ECA); Electrical Safety Council; British Approvals Service for Cables (BASEC); British Cables Association (BCA); Energy Networks Association (ENA); Ascertiva (previously the NICEIC Group Limited), SELECT and JIB.