



Risk Management and Electrical Safety in Churches

(Recommended by the Archbishop's Council and the Ecclesiastical Insurance Group)

It is a requirement of Electricity at Work Regulations 1989 that all electrical installations and electrical equipment in use at work, known as a "system", must be so constructed and maintained as to prevent danger.

In order to ensure that all electrical systems are maintained properly, routine inspections and examinations should be carried out by a qualified and competent person and the appropriate test certificate issued.

Full scope Members of the National Inspection Council for Electrical Installation contracting (NICIEC), The Electrical Contractors Association (ECA) and the National Association of Professional Inspectors and Testers (NAPIT) meet these criteria.

Electricians and electrical contractors who are only registered to undertake work on domestic installations under Part P of the Building Regulations are not acceptable other than for work in domestic dwellings.

In accordance with the recommendations of The Church Buildings Council (CBC) we suggest that fixed systems in churches be inspected and tested every five years with Part Six of BS7671 "The Wiring Regulations" (currently the Seventeenth Edition 2008) and any future amendments.

The regulations do not specify inspection periods for portable equipment but the guidance to the regulations recommend that inspection periods be established by historical experience. We suggest visual inspection on a regular basis and testing on an annual basis initially, reducing or increasing the inspection periods according to maintenance experience.

Records must be kept of all inspections, examinations and maintenance carried out.

The DAC recommend that these records are kept in the Church Log Book and are available for the triennial Archdeacon's Inspection of the Church records.

Electrical Wiring in Churches

The Church Building Council (CBC) and the Diocesan Advisory Committee for the Care of Churches prefer the use of Mineral Insulated Copper Cables (MICC) for the wiring of churches as they are heat resistant, tough and can be supplied with a coloured plastic sheath which makes it easier to conceal. However they must be installed by an electrician who has been trained to do so.

The CBC has, however, approved the use of a less expensive type of cable - Pirelli FP200 or its equivalent - as an alternative. It is fire resistant, less expensive than MICC, and it can be installed by a less skilled contractor. The disadvantage of this cable is that it has a larger cross-sectional area than MICC in like-for-like sizes, so it could be harder to install where space is an issue, and it might be harder to conceal.

PVC/PVC plastic twin and earth cable (as supplied to domestic installations) is not recommended in churches. Plastic cables can be used with heavy duty plastic trunking or conduit, or steel conduit. However, these can be unsightly, and may not be considered suitable in Grade I, Grade II* or Grade II churches.

Lightning protection implications of installation of electrical equipment

BS7671 The Wiring Regulations 17th Edition as amended in Amendment No. 1 2011 indicate the requirements for Surge Protection Devices (SPDs) in Section 443 "Protection against overvoltages of atmospheric origin or due to switching" and in Section 534 "Devices for protection against overvoltage, selection and erection".

On a church fitted with an external lightning protection system it is advisable to install cabling and equipment within the protection volume of the lightning protection system but sufficiently separated from any lightning conductors. In the absence of a specific calculation, a separation distance of 1 metre is normally adequate.

For churches with a full system of lightning protection to BS EN 62305 the whole church is within the protected volume. For churches with a 'tower-only' system of protection having a height of no more than 30 m, any point within a 30° semi-angle cone from the top of the spire or any tower conductor will be protected.

Eur Ing. F.W. Price, MBE, C.Eng. FIET
Advisor to the DAC for Electrical and Mechanical Services

Rev C M Miles C Eng, MIET
Lightning Protection Consultant to the DAC
Updated March 2012