



## INTRODUCTION

Church buildings have always suffered from the effects of lightning. It is estimated that approximately 80% of churches have some form of lightning protection system, the vast majority of these are of a tower only type comprising a single rod leading from the top of the spire or tower to an earth stake buried in the ground.

Most churches will benefit from a lightning protection system and in many cases a tower only system may provide an acceptable level of protection.

Under the Church of Scotland Church Insurance Scheme the installation of a lightning conductor system is not usually a policy condition where insurance cover is provided. However installing lightning protection, as part of a risk assessment strategy together with its ongoing maintenance and testing is something we strongly recommend and should assist in the conservation of the building for future generations.

## WHAT ARE THE CHANCES OF A LIGHTNING STRIKE?

Statistics seem to indicate that a church with no lightning protection is about five times more likely to suffer structural strike damage than one with lightning protection.

Furthermore the risk of damage to electrical systems and equipment in unprotected church buildings is increased markedly, as they can inadvertently form part of the discharge path.

## TYPICAL LIGHTNING DAMAGE

Lightning damage can cause direct effects to the building ranging from substantial structural displacement of areas of a spire, tower and other parts of the building to minor damage to copings and pinnacles. Indirect effects of lightning arise from voltage surges causing shutdown or



malfunction or the complete burnout of electronic systems. Electronic alarms, boiler controls, sound reproduction systems, computers, telephones, and electronic organs can all be adversely affected.

Statistics indicate that approximately 60% of claims for lightning damage are for repairs to electrical wiring and equipment rather than structural damage. Consideration should therefore be given to the installation of surge protection equipment.

## INSTALLING A NEW SYSTEM

It would be usual for a church appointed architect or building surveyor to take the lead in this process on behalf of the congregation and to liaise between church authorities and other bodies, including Historic Scotland where appropriate.

A suitably qualified specialist installer will need to be appointed and all relevant statutory regulations including those under the Health and Safety at Work act and any other relevant regulations must be observed.



## **INSTALLING A NEW SYSTEM (CONTINUED)**

The current standard for lightning protection is set out in BS EN 62305 which superseded the previous standard (BS 6651, 1999) in 2008.

The new standard reflects improved understanding of lightning and its effects. It is more complex and exacting than its forerunner and comprises four distinct parts: - general principles, risk management, physical damage to structures and people, and electronic systems protection.

Whilst BS 6651 recommended inspection and testing of the system once installed at intervals not exceeding 12 months, the interval under the new standard will depend on the level of protection. For most simple systems an interval of two and a half years may be appropriate, or immediately following a strike or suspected strike. A record of all inspections and tests should be maintained.

## **SUMMARY**

These guidelines are only a brief summary of what is a very complex subject.

It is essential that specialist advice is obtained before installation and contractors with experience and competence in the installation of lightning protection are used.

**FOR FURTHER INFORMATION  
REGARDING THESE GUIDELINES OR  
ANY OTHER MATTERS RELATING TO  
YOUR CHURCH INSURANCE SCHEME  
POLICY PLEASE CONTACT US:**



Membership of a body such as the National Inspection Council for Electrical Installation Contracting (NICEIC), the Electrical Contractors' Association (ECA), the National Association of Professional Inspectors and Testers (NAPIT), or other equivalent bodies is relevant to your selection. Specialist contractors may also be members of The National Federation of Master Steeplejacks and Lightning Conductor Engineers.

**Please call us on: 0131 220 4119**

**If you prefer you can e-mail us at:**

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