

**Lightning Protection & Earthing Specialists** 

Unit 2, Glade Business Centre, Forum Road, Nottingham, NG5 9RW Telephone 0115 975 4808 Email: info@thunderbolttm.com

St Guthlacs Church DCC C/O Mr D J Hunt 11 Swale Close Oadby Leicester LE2 4GF Our Ref: L-0094-MH

Our Ref. L-0074-Wiff

Date: 13<sup>th</sup> February 2025

For the Attention of Mr D J Hunt

Dear Sir

RE: St Guthlacs Church Lightning Protection Test & Inspection

We have pleasure in confirming completion of the Lightning Protection Installation Test & Inspection, all in accordance with our quotations and BS6651:1999.

We trust that the work has been carried out to your total satisfaction and have pleasure in enclosing our manual & test certificates, together with our invoice for the above works.

However, we ask you to take note of British standard clauses, 31,32,33,34, which states that lightning/ Earthing Protection System is "Tested at Fixed intervals not exceeding 12 months".

The system will therefore, require testing during December 2025 and trust the above and enclosures meet with your approval, but should there be any matters you may wish to discuss further, please do not hesitate to contact us.

Assuring you our best attention at all times, we remain

Yours faithfully For and on behalf of Thunderbolt Test and Maintenance Ltd

Mick Heffernan Contracts Manager













# TEST & INSPECTION CERTIFICATE & MANUAL For

#### LIGHTNING PROTECTION INSTALLATION

**IN ACCORDANCE WITH BS6651:1999** 

**AT** 

ST GUTHLACS CHURCH

**HOLBROOK ROAD** 

LEICESTER

LE23LF

On

**29<sup>th</sup> January 2025** 

#### \*PLEASE NOTE:

IT IS RECOMMENDED THAT UNDER THE AFOREMENTIONED BS 6651:1999/BS62305, THAT TESTS SHOULD BE REPEATED AT FIXED INTERVALS, PREFERABLY NOT EXCEEDING 12 MONTHS – IT MAY BE ADVANTAGEOUS TO CHOOSE A PERIOD SLIGHTLY SHORTER IN ORDER TO VARY THE SEASON IN WHICH TESTS ARE MADE. Next Test Due: December 2025.

#### **Key Schedule**

#### **Section One**

System Description

#### **Section Two**

Maintenance

#### **Section Three**

Certification & Test Record

### **Section Four**

**Test Procedures** 

#### Section

#### One

## System Description

#### **Air Termination**

The system comprises of a copper multi point air terminal.

#### **Down Conductors**

1no 25x3mm bare copper tape terminating in a gun metal oblong test clamp.

#### **Bonds**

To the copper air terminal.

### **Earthing**

Existing copper bond electrodes surmounted by concrete housing units.

The system installed is in a satisfactory condition and good working order.

Electrical bond not visible

#### **SECTION TWO**

#### Maintenance

The installed system does comply with BS6651:1999/BS62305 "The Protection of Structures against Lightning". However, we would ask you take note of the following clauses: - 31 – <u>INSPECTION</u> – States "All lightning protection systems should be visually inspected by a competent person after alteration or extensions, in order to verify that they conform to the recommendations in this code. Visual inspection should be repeated at fixed intervals, preferably not exceeding 12 months.

- 32 TESTING States "Tests should be repeated at fixed intervals, preferably not exceeding 12 months", it may be advantageous to choose a period slightly shorter than 12 months in order to vary the season in which tests are made" (we recommend every 11<sup>th</sup> month).
- $33 \underline{RECORDS}$  States "The following records should be kept on site or by the person responsible for the upkeep of the installation.
  - a) scale drawings showing the nature, dimensions, materials and position of all component parts of the lightning protection system,
  - b) the nature of the soil and any special earthing arrangements,
  - c) the type and position of the earth electrodes, including reference electrodes,
  - d) the test and conditions and results obtained (see clause 32),
  - e) any alterations, additions or repairs to the system,
  - f) the name of the person responsible for the installation or its upkeep
- 34 <u>MAINTENANCE AND UPKEEP</u> States" The periodic inspections and tests recommend in clauses 31 and 32 will show what maintenance, if any, is needed. Particular attention should be given to the following,
  - a) earthing,
  - b) evidence of corrosion or conditions likely to lead to corrosion,
  - c) alterations and additions to the structure which may affect the lightning protection system (e.g. changes in the use of a building, the installation of crane tracks or erection of radio and television aerials and CCTV).

Tests should be carried out not exceeding 12 months for Insurance Purposes and prevention of a Lightning Strike (we would therefore recommend that test and inspection are carried out at intervals not exceeding 11 months). next test due December 2025.

## **SECTION THREE**

**Test** 

Certification

&

**Test Record** 

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TEST AND INSPECTION CERTIFICATE					
ST GUTHLACS CHURCH					
File Reference No:	L-0094-MH	Date of Test: 29th January 2025			
Site Address: St Guthlacs Church – Holbrook Road – Leicester – LE2 3LF					
Type of Installation	<b>:</b>	Ground Conditions:			
BS6651		Dry Wet			Hard
Details of Building: Worship		Description of	Site:		
		Dom	Com		Other
Details of Roof: Sla	ites	Details of Structure: Brick/Stone			tone
Details of Conducto				T	
Conductors	Roof	Down Tapes		Earth Tapes	
Size:	Multi point	25x3mm		25x3mm	
Type:	Copper	Copper		Copper	
PVC Colour:	Bare	Bare		Bare	
Joints:	Clamped	Clamped		Clamped	
Earth Housing	Concrete	Plastic		None	
Units:					
<b>Down Conductors:</b>					
Satisfactory					
Condition of Earth:	:				
Satisfactory					
Condition of Roof System:					
Satisfactory					
Remarks:					
System is in a satisfactory Condition and in good working order.					
Surge protection not checked.					
Additional System on Site: No		Access: N/A			
Engineers Ionia Hoffenson					
Engineers: Jamie Heffernan		Signature:	Miol, II.	effernan	
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#### **Earth Test Results**

No.	Earth Position	Resistance	Type of Earth Existing	Maximum Reading
<b>E1</b>	At Base	5.04	Existing	10 Ohms

Test Method	Test Equipment
Dead	4105A
Fall of Potential	Serial no W8227236
Other	

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#### **SYSTEM TEST INSPECTION RECORD**

SITE: St Guthlacs Church – Holbrook Road - Leicester

OUR REF: L-0094-MH SYSTEM TYPE: BS 6651

Inspection	Inspection	Inspection	Comments/Observations
Due	Date	Company	
Mar-09	Mar-09	Thunderbolt	System is in a satisfactory condition.
Feb-10	Jul-10	Thunderbolt	System is in a satisfactory condition.
Jun-11	Jun-11	Thunderbolt	System is in a satisfactory condition.
May-12	Aug-12	Thunderbolt	System is in a satisfactory condition.
Jul-13	Aug-13	Thunderbolt	System is in a satisfactory condition.
Jul-14	Oct-14	Thunderbolt	System is in a satisfactory condition.
Sept-15	Nov-15	Thunderbolt	System is in a satisfactory condition.
Oct-16	Jan-17	Thunderbolt	System is in a satisfactory condition.
Dec-17	Jan-18	Thunderbolt	System is in a satisfactory condition.
Dec-18	Jan-19	Thunderbolt	System is in a satisfactory condition.
Dec-19	Jan-20	Thunderbolt	System is in a satisfactory condition.
Dec-20	Mar-21	Thunderbolt	System is in a satisfactory condition
Feb-22	Feb-22	Thunderbolt	System is in a satisfactory condition
Jan-23	Feb-23	Thunderbolt	System is in a satisfactory condition
Jan-24	Jan-24	Thunderbolt	System is in a satisfactory condition
Dec-24	Jan-25	Thunderbolt	System is in a satisfactory condition
Dec-25			
	<u> </u>	<u>1</u>	

## **SECTION FOUR**

#### **MEASURING TECHNIQUES**

#### **Fall of Potential**

- 1. From approximately 30 metres away from the earth that is to be tested, drive a spike into the ground. This is then to be Current or C2 as on the test set.
- 2. Mid-Way between the Current Spike and the earth to be tested, drive another spike into the ground.
  - This is then to be Potential or P2 on the test set.
- 3. All Three (3) to be in a direct line.
- 4. Connect the spike that is 30 metres away from earth under test, with lead to C2 terminal on the test set.
- 5. Connect the spike that is mid-way between the earth under test and he one at the 30-metre mark, (this should be 15 metres approximately) with a lead to the P2 terminal on the test set.
- 6. With short test lead (1 metre approximately) connect to C1 and C2 on the test set and to the earth under test.
- 7. Take a reading, this reading is to be recorded and have the prefix R1.
- 8. Remove spike P2 from the ground and re-position 3 metres nearer the earth under test.
- 9. Reconnect the lead.
- 10. Take a reading and record this reading to have a prefix R2.
- 11. Remove spike P2 from the ground and reposition 6 metres away from the earth point under test (i.e. near C2).
- 12. Take reading, record, this reading is to have a prefix of R3.

#### **Urban Area Test/Dead Earth method**

- 1. Connect one of the twin cables to terminals C1&P1 on test set.
- 2. Connect the other twin cable to terminals C2 & P2 on the test set.
- 3. Disconnect the down conductor from the earth electrode to be tested.
- 4. Connect the twin cable from terminals C1 & P1 to the earth under test.
- 5. Connect the other twin cable from terminals C2 & P2 to the down conductor.
- 6. The earth test set is then operated and the resistance reading recorded.
- 7. Reconnect the down conductor to the tested electrode.