



Section 26 41 13 – LIGHTNING PROTECTION SYSTEM

PART 1 – GENERAL

1.1 RELATED REQUIREMENTS

- A. The conditions of the contract, including the General Conditions and Supplementary Conditions, Division 1 – General Requirements, apply to work covered by this section.
- B. Comply with Division 26 Sections, as applicable. Refer to other divisions for coordination of work.

1.2 SCOPE OF WORK

- A. Engage the services of a UL accredited Subcontractor normally engaged in the installation of such systems to provide labor, materials, equipment, tools, and services, and perform operations required for, and reasonably incidental to, the providing of a lightning protection system, including necessary supplementary items. Example: Triangle Lightning Protection, 2587 C.R 44 West Eustis, FL 32726. 352-483-7020. www.tlpfl.com
- B. The lightning protection system shall be a master-labeled system protecting the building, consisting of air terminals on the roof, bonding roof mounted mechanical equipment, bonding of the structure and other metal objects, grounding electrodes and interconnecting conductors.
- C. Upon completion of the installation, the installer shall furnish a written guarantee of UL compliance and subsequent issuance of the LPI Master Installation Certificate.
- D. Provide complete lightning protection systems for all buildings, structures, canopies, etc. whether shown on drawings or not.

1.3 SUBMITTALS

- A. Submit product data and shop drawings in accordance with Division 1 for products specified under PART 2 – PRODUCTS.
- B. Submit shop drawings showing layout of air terminals, grounding electrodes and bonding connections to structure and other metal objects. Include terminal, electrode and conductor sizes, and connection and termination details.
- C. Submit product data showing dimensions and materials of each component and include indication of listing in accordance with UL96.



1.4 REFERENCE STANDARDS

- A. The lightning protection system shall comply with the requirements of the latest issue of the following standards:
 - 1. Lightning Protection Institute Installation Standard, LPI-175
 - 2. Underwriters Laboratories, Inc. Installation Requirements, UL-96A
 - 3. National Electrical Code (NEC)
 - 4. National Fire Protection Association, NFPA-780

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Thompson Lightning Protection

2.2 GENERAL

- A. All equipment used in the installation shall be UL listed and properly labeled. All equipment shall be new, and of a design and construction to suit the application where it is used in accordance with accepted industry standards and LPI, UL, NFPA and NEC code requirements.

2.3 LIGHTNING PROTECTION EQUIPMENT

- A. All materials shall be copper/bronze or aluminum and of the size, weight and construction to suit the application and used in accordance with LPI, UL and NFPA code requirements. Class I sized components shall be utilized on roof levels 75 feet and below in height. Class II sized components shall be utilized for roof levels over 75 feet in height. Bolt type connectors and splicers shall be utilized on class I and class II structures. Pressure squeeze clamps are not acceptable. All mounting hardware shall be stainless steel to prevent corrosion.

2.4 GROUND ROD ELECTRODES

- A. Material: Copper-clad steel.
- B. Diameter: 5/8”.
- C. Length: 30’ (minimum). Increase lengths as required to meet and achieve specified resistance.

2.5 GROUND RING

- A. Provide complete underground building perimeter ground ring system, completely encircling each building.
- B. Conductor shall be minimum of Class II lightning protection copper conductor (bare).



- C. Install at not less than 2-1/2' depth into earth.
- D. Install ground rods (minimum 30' long) every 150' section of ground ring conductor.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. The installation shall be accomplished by an experienced installation company that is UL listed, a member of the Lightning Protection Institute, United Lightning Protection Association qualified and an employer of Certified Master Installer of lightning protection systems. A Certified Master Installer shall directly supervise the work.
- B. All equipment shall be installed in a neat, workmanlike manner. The system shall consist of a complete conductor network at the roof and include air terminals, connectors, splicers, bonds, copper downloads and proper ground terminals.
- C. Systems shall be semi-concealed, with all down lead conductors and groundings concealed within the building, but with roof conductors and air terminals exposed on the roof.
- D. Air terminals and conductors shall be mounted on the inside of parapet and penthouse walls where possible. The use of an approved and compatible adhesive can be used to mount air terminals and conductors.
- E. Copper down lead cables shall be utilized even when aluminum is required on the roof. Down lead cables in conduit shall not be brought directly through the roof. Thru roof assemblies with solid brass or stainless-steel rods shall be utilized for this purpose. Structural steel may be utilized in the installation as outlined by UL, NFPA and LPI.

3.2 COORDINATION

- A. The lightning protection installer shall work with other trades to insure a correct, neat and unobtrusive installation.
- B. Coordinate with the roofing contractor to insure all roof penetrations are leakproof.
- C. It shall be the roofing contractor's responsibility to provide and install the sealing and flashing of all lightning protection roof penetrations.
- D. Should the roofing contractor/manufacture require any special walk pads, membrane patches, pavers, etc. under the components of the lightning protection system, it shall be the responsibility of the roofing contractor to furnish and install such items. The lightning protection installer is responsible for marking the roof with all conductor and pad locations.
- E. It shall be the responsibility of the lightning protection installer to assure a sound bond to the main water service and to assure interconnection with other ground systems.



3.3 COMPLETION

- A. Upon completion of the installation, the lightning protection installer shall secure and deliver to the owner the Underwriters Laboratories Master Label. The system will not be accepted without the Master Certification.

- B. This specification recognizes that UL will not Master Label structures or additions that are attached to a structure which does not fully comply with current UL96A lightning protection standards. Therefore, lightning protection shall be provided for the new buildings only. Upon completion of the installation, the installer shall furnish a written guarantee of UL compliance. In addition, a written report of work and cost needed on the attached structure(s) in order for the facility to qualify for the UL Master Label will be required. If no work is necessary, the UL Master Label shall be provided.

