

SECTION 16670 (also 13100): LIGHTNING PROTECTION SYSTEM

PART I. GENERAL

- 1.01 **Objective:** To provide safety for the building and occupants by preventing damage to **enter structure name** caused by lightning.
- 1.02 **Standards:** The following specifications and standards of the latest issue form a part of this specification:
- (1) Lightning Protection Institute (LPI)
Standard of Practice for the Design, Installation, Inspection of Lightning Protection Systems, LPI 175
 - (2) Underwriters Laboratories, Inc.,
Lightning Protection Components, UL 96
 - (3) Underwriters Laboratories, Inc.,
Installation Requirements for Lightning Protection Systems, UL 96A
 - (4) National Fire Protection Association
Standard of the Installation of Lightning Protection, NFPA 780
- 1.03 **System Design:** The work covered by this section of the specifications consists of furnishing all labor, materials and items of service required for the completion of a functional and unobtrusive lightning protection system approved by the architect, engineer, Lightning Protection Institute (LPI) Certified Master Designer and in strict accordance with this section of the specifications and the applicable contract drawings.
- If any departure from the contract or submittal drawings are deemed necessary by the Contractor, details of such departures and reasons therefore shall be submitted as soon as practical to the architect and engineer for approval.
- The lightning protection system shall be designed by an LPI Certified Master Designer and the drawing shall bear the seal. The seal shall be current at the time of submission and shall be signed by the Master Designer. This shall be accepted in lieu of a state certified engineers stamp on the lightning protection drawings.
- The lightning protection installation company shall employ LPI Certified Master Installers to do the actual installation and the certification shall be part of the submittal package. The card shall be carried onsite at all times.
- 1.04 **Submittals:** Complete design drawings showing the type, size, and locations of all grounding, down conductors, through-roof/through-wall assemblies, roof conductors, and air terminals shall be submitted to the architect and engineer for approval.
- 1.05 **Quality Assurance:** The lightning protection system shall conform to the requirements and standards for lightning protection systems of LPI, UL and NFPA. Upon completion, application shall be made to the Lightning Protection Institute Inspection Program for inspection and issuance of the system certification.

PART II. PRODUCTS

SECTION 16670 (also 13100): LIGHTNING PROTECTION SYSTEM

- 2.01 **Standard:** The system to be furnished under this specification and shall be the standard product of a manufacturer regularly engaged in the production of lightning protection equipment and shall be the manufacturer's latest approved design. The equipment shall be UL listed and properly UL 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 UL and NFPA requirements.

Acceptable Manufacturers:

Northeast Lightning Protection, Bloomfield, CT
East Coast Lightning Protection Equipment, Winstead, CT
Acme Lightning Rod Co., Bloomfield, CT

- 2.02 **Equipment:** Provide and install a complete lightning protection system in compliance with the specifications and standards of the most current editions of the National Fire Protection Association's Lightning Protection Standard NFPA-780, Underwriters Laboratories Lightning Protection Standard UL96A and the Lightning Protection Institute's LPI 175. The system shall be installed by a lightning protection contractor who is listed by Underwriters Laboratories, Inc. and a member of the Lightning Protection Institute.
- 2.03 **Materials:** All lightning protection materials and components shall comply in weight, size and composition with UL 96 and NFPA-780 lightning protection material requirements for this type of structure. All materials shall not be used in combinations that form electrolytic corrosion. Class I materials shall be used on structures not more than 75 feet in height. Class II materials shall be used on structures over 75 feet in height.

PART III. EXECUTION

- 3.01 **Installation:** The installation shall be accomplished by an experienced installation company that is listed with Underwriters Laboratories for lightning protection installation. The installation company shall utilize Lightning Protection Institute Certified Master Installers. The company shall be members in good standing of the Lightning Protection Institute, and Underwriters Laboratories. 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, splices, bonds, down leads and proper ground terminals, all of which shall be installed by a qualified lightning protection contractor.
- 3.02 **Coordination:** The lightning protection installer will work with other trades to ensure a correct, neat and unobtrusive installation. The roofing contractor will be responsible for sealing and flashing all lightning protection roof penetrations as per the roof manufacturer's recommendations.

Note: *Lightning Protection penetrations and/or attachment procedures should be addressed in the roofing section of the specifications. 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. This note to be removed prior to bid set inclusion.*

- 3.03 **Inspection and Certification:** This system shall receive the LPI-IP certification to the UL96A inspection criteria. The owner or their representative shall be required to sign off on various phases of concealed installation of the LPS. The contractor shall keep a pictorial record (dated photographs) of each concealed part of the installation. The contractor shall submit record drawings to LPI-IP engineering staff prior to the onsite inspection for review and stamping. This and all photographs shall be delivered to the owner with the as built drawings and Certification in the form of the O & M manual.

SECTION 16670 (also 13100): LIGHTNING PROTECTION SYSTEM

- 3.04 **Related:** Surge protection devices shall be furnished and installed by the electrical contractor at the point of first disconnect of each electrical service, including, but not limited to, generators, solar arrays, and wind generators. Each surge unit must comply with UL96a 13.1 and be visible during the onsite inspection. If surge protection devices do not meet the requirements of UL96a, the lightning protection system inspection will eliminate surge protection in the scope of the inspection and the certificate will reflect the exemption of surge.