

LIGHTNING PROTECTION SYSTEM DURING REROOFING 16670 A

(This specification for a complete, updated and renovated lightning protection system addressing all parts of the LPS, including roof, downleads, surge protection, bonding and grounding)

PART I. GENERAL

- 1.01 **Objective:** To provide safety for the building and occupants by preventing damage to the building caused by lightning.
- 1.02 **Standards:** The following specifications and standards of the latest issue form a part of this specification:
- (1) National Fire Protection Association
Standard for the Installation of Lightning Protection, NFPA 780
 - (2) LPI 175
The standard for the installation of lightning protection for the LPI-IP Certification
 - (3) Underwriters Laboratories, Inc.,
Lightning Protection Components, UL 96
 - (4) Underwriters Laboratories, Inc., (UL)
Installation Requirements for Lightning Protection Systems, UL 96A
- 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 removal and reinstallation of a functional and unobtrusive lightning protection system approved by the architect, engineer, and in strict accordance with this section of the specifications and the applicable contract drawings.
- If any departure from the contract drawings or submittal drawings (where they exist), covered below 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 a Lightning Protection Institute Certified Master Installer 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 Installer 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 removal, installation, and the certification shall be part of the submittal package. The card shall be carried onsite at all times.
- 1.04 **Submittals:** Complete as-built drawings showing the type, size, and locations of all grounding, down conductors, through-roof / through-wall assemblies, roof conductors, and air terminals shall be provided by the owner where they exist.
- 1.05 **Quality Assurance:** The lightning protection system shall conform to the requirements for a complete lightning protection system in accordance with NFPA and LPI Standards. Upon completion, application shall be made to The Lightning Protection Institute for inspection and issuance of the LPI Inspection Program Certificate. UL Master Label will not be accepted as an equal.

PART II. PRODUCTS

- 2.01 **Standard:** Remove the existing LPS material and refurbish for reinstallation where in conformance with UL 96. Replace defective material and any material contaminated with roofing materials that is incompatible with the new Roof system materials. The new equipment shall be UL listed and properly UL labeled.

Acceptable Manufacturers:

Northeast Lightning Protection, Bloomfield, CT
East Coast Lightning Protection Equipment, Winstead, CT
Advanced Lightning Technologies - Argyle, TX

- 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, and Lightning Protection Institute Standard LPI-175. The system shall be installed by a lightning protection contractor who is listed by Underwriters Laboratories, Inc.
- 2.03 **Materials:** All new lightning protection materials and components shall comply in weight, size and composition with UL 96 and lightning protection material requirements for this type of structure. All materials shall be matched in design and composition to the existing materials where possible. Aluminum components shall be used in locations where system components are mounted to aluminum, zinc and galvanized surfaces to avoid galvanic corrosion of dissimilar metals. 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 company shall utilize Lightning Protection Institute Certified Master Installers. The installation shall be accomplished by an experienced installation company that is listed with Underwriters Laboratories for lightning protection installation. 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. If as built drawings are not available to verify the existing concealed parts of the LPS, new concealed work will be required unless the existing can be verified through testing.
- 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 and installing slip pads, stripping, heat welding or anything as required per the roof manufacturer's recommendations.
- 3.03 **Inspection and Certification:** Surge protection shall be updated as required by UL 1449 Edition 3 for lightning protection systems. The units shall be provided by the lightning protection contractor and installed by the owners Electrical Contractor. If current surge protection is not installed as part of this contract, then certifications will be based on the "surge exempt" criteria of the LPI-Inspection Program. LPI- IP Reconditioned Master Installation Certification shall be provided when the concealed system elements are verified by a previously issued certification provided by the owner. When concealed work cannot be documented, the Limited Scope Inspection from LPI-IP shall be provided.