Table of Contents

Introduction

All installation and maintenance personnel should read and follow the below guidelines to ensure pole longevity. The durability of these products is dependent upon competent installation and regularly scheduled maintenance. A "Pole Inspection Worksheet" can be found on the last pages of this document to help keep record of inspection findings. Only components supplied by the factory may be used including anchor bolts, anchor bolt caps or base covers, pole, mounting brackets and arms.

Acuity Brands Lighting cannot be held responsible for any damage that occurs during or after installation, or for any structure that has been modified or utilized in a way other than that for which it was originally designed and intended. The purchaser/installer must ensure the proper handling at the construction site to ensure a damage-free product when installation is complete. If questions arise concerning the installation, maintenance or alteration of these products, the factory must be consulted.

Surface Protection

Unloading

During the unloading procedures, only competent and previously qualified and trained operators should be utilized. Poles should be inspected for finish damage before and after unloading.

- For crane unloading methods, only nylon straps should be used. Direct metal to metal contact, including the use of lifting chains, will cause damage to the finish.
- For forklift unloading, either side-lift or spear techniques should be employed. It is vital that the metal forks do not come in direct contact with the pole shaft surface. Cloth sleeves or other protective materials must be used.
    - On side-lift operations, forklift forks should be of sufficient width and spacing to prevent bowing of the pole during lifting.
    - On spear operations, only the base end of the structure should be lifted but do not use bolt holes in the base plate to lift. Forklift forks should be of sufficient length to prevent bowing of the pole during lifting.

The operator should take extra precautions not to damage the hand hole frame or grounding lug that is approximately 18" from the bottom inside the shaft.

Surface Protection

Storage

Structures stored prior to installation must be protected against moisture retention. Moisture retention presents a high risk of surface finish damage that may lead to discoloration or corrosion. Recommended adequate storage solutions include, but are not limited, to the below.

- Any wrapping material must be removed immediately upon unloading and prior to storage. No sharp objects should be used.
- Structures must not be placed in direct contact with the ground. A minimum of 12' is recommended to be maintained between the ground and pole during storage.
- Only dry and untreated wood or other padded materials should be used as support /dunnage and as spacers to prevent scratches and increase air flow around structures.
- The location of storage should be well ventilated, and poles should not be in contact with each other.

Installation

During the installation (erection) process, cranes must utilize nylon straps to ensure that the protective finish is not harmed. Chains or wire will cause damage to the finish and should not be used. The poles should be reviewed for finish damage before and after installation onto the anchor bolt foundation. For painted structures, damaged areas should be lightly sanded, and a coat of factory provided touch-up paint should be applied to the affected area (outside temperature of 50° Fahrenheit or higher is required for application of touch-up paint). For a detailed paint procedure, contact the factory.

Anchor Bolt Foundations and Pole Install

Foundation design is the responsibility of the contractor and must be certified by local civil engineer with consideration of the local soil type. Anchor bolts should be placed in an adequate foundation of concrete and reinforcing materials.

- Placement of bolts in the foundation must be in accordance with the instructions and dimensions on the templates provided by Acuity Brands.
- Bolts must protrude from the top of the concrete in a vertical orientation, perpendicular to the top of the footing.
- Bolts must be equally spaced from one another and from the center point of the foundation.
- Ensure lower L portions of the bolts are pointed inwards, towards the center of the base.

When installing pole onto the cured foundation and anchorage, the base plate of the pole structures must easily accommodate the anchor bolt pattern. Forcing bolts to accept the base plate may cause damage to the threads on the anchor bolts and paint finish on the base plate which may lead to paint failure and corrosion. One leveling (bottom) and one hold-down (top) nut should be utilized per anchor bolt. One flat washer (bottom) and one hold-down (top) washer should be utilized per anchor bolt. Space between the top of the foundation and the bottom of the pole base plate is required to ensure ventilation. Grout pack may be used at the discretion of the installing contractor but must be thoroughly vented with applicable weep/drainage outlets.

Effects of Vibration

It is standard for all poles to "sway" in the wind. This back-and-forth movement from the base of the pole is referred to as first-mode vibration. This mode of vibration is a common occurrence in any exterior pole location and all poles are designed to accommodate for this "sway". Only in extreme cases will first-mode vibration be problematic.

Vibration is more likely to occur when structures are installed without attaching the intended equipment (ex. Light fixtures, arms, signs, etc.). Vibrations also tend to appear more often in square non-tapered structures than any other structural cross-section. Regardless of tendencies to product type, materials, heights, or cross-section type, vibration occurs as a random act and is an unpredictable phenomenon.

The more destructive form of vibration is second-mode vibration. This is when the top and bottom of the pole remain fixed, while the middle of the pole has significant movement. Although very rare, second-mode vibration can be severe enough to cause damage and occurs in any type of pole structure. This unpredictable phenomenon requires that structures be inspected weekly for the first three months of operation. Communication with the building manager or other responsible parties is imperative.

General Maintenance

A 6-month maintenance program is recommended. This program should include periodic inspection for deterioration of the finish and review of the general structural appearance. This will ensure a timely resolution to minor problems that may occur and ensure the structural integrity and visual appeal of the pole is preserved. It is recommended that binoculars, tape measures, and a logbook be used during inspections. Any suspicious findings must be recorded and communicated back to the responsible parties.

Each maintenance cycle should include a visual inspection of all lighting structures on a given project or site.

A "Pole Inspection Worksheet" can be found on the last pages of this document to help keep record of inspection findings.

- This would include clear breaches in the protective coating such as, but not limited to, scratches, gouges, peeling, dents, or chips.
- Minor issues should also be communicated such as, but not limited to, severe or uneven fading, or applications of foreign substances (i.e., glue, tar, tape, graffiti, etc.).
- The weld connecting the base plate to the pole shaft should be visually inspected for apparent cracks and corrosion.
- Binoculars should be used to review the attachments of light fixtures or other provisions and mounted items.
- Hand hole covers should be securely fastened; anchor base covers or anchor bolt nut covers should be attached. If anchor bolt nuts are visible, then a visual inspection of the nuts should be made to ensure all are in place and tightened.
- The original installer must provide proper electrical grounding and warnings about any electrical hazards in accordance with applicable local codes. General maintenance should include a review of the display for these warnings (if so required). Failure for proper warning display as dictated by local code must be communicated immediately.

Pole Inspection Worksheet

This worksheet should be used as a check list and a record, ensuring general maintenance inspections are being preformed at regular intervals. In the cells below, provide date of inspection. If maintenance was completed or needs to be completed, add a comment along with date and report to responsible parties.

Pole Location/ Designation Item 100	Handhole Covers Item 200	Base Covers Item 300	Bolts, Nuts, Washers Item 400	Base Weld Item 500	Pole Vibrations Item 600	Paint Finish Item 700	Damaged Structure Item 800

Pole Inspection Worksheet – Item Descriptions

- **Item 100:** A chart or diagram of the poles should be available or constructed and stored with this worksheet. On this diagram, each pole structure should be provided a designation/code for reference of location during maintenance checks. Each cell in this column should list an individual pole and its designation/code based on the pole diagram.
- **Item 200:** Handhole covers should be inspected to ensure they are installed on each product. Missing handhole covers should be reported. Loose covers should be tightened.
- **Item 300:** Base covers, or respective anchor bolt nut covers should be inspected to ensure they are installed. Missing components should be reported. Loose components should be tightened.
- **Item 400:** The anchor bolts, nuts, and washers should be generally inspected to ensure they are secured. Missing components should be reported. Loose components should be tightened.
- **Item 500:** The weld between the pole shaft and base plate should be visually inspected for any sign of cracks. Any perceived abnormal weld and/or crack should be reported.
- **Item 600:** A general visual review of each pole shaft should be inspected for harmonic vibration. Pole sway as a result of wind is normal. Inspection should be for abnormal swaying (vibration).
- **Item 700:** The condition of the paint should be reported. This would include rusting, scratches, peeling, blisters, or abnormal chalking or fading.
- **Item 800:** Damage to structures should be reported. This would include dents, cracks, gouges, creases, abrasions, graffiti (glue, paint, posters, tape, etc.).