



Notes for Tree Lightning Protection Systems



IPC offers a full line of lightning protection equipment for use in tree installations. Lightning protection systems for trees have been in existence since the early 1900's. Trees located on golf courses, historic points of interest, parks, municipalities and large estates are several places to consider providing the service. Please see the following chart that illustrates the differences between the two standards.

Notes on Tree Lightning Protection Systems

Tree lightning protection systems are designed using standards that have been adopted by the Tree Care Industry Association (formerly NAA). The American National Standards Institute (ANSI) Accredited Standards Committee (ASC) A300, published the ANSI A300 (part 4) Lightning Protection Systems in the fall of 2002.

Aluminum cable or accessories should not be used in tree systems. Only materials made of copper and bronze alloys should be used in trees. Reference the ANSI Standard of Practice for lightning protection systems, ANSI A300 (part 4) - 2002, adopted by TCIA.

One of the services IPC provides to our Arborist dealers, is our free estimate program for trees. The program provides an arborist with the estimated material requirements necessary to make an installation. Our estimate will show the arborist a side by side comparison of both the former and the more recent ANSI standards of installation.

Normal turnaround on our estimate is within the hour after receiving your inquiry. To provide an estimate, the following information is required:

- Type of tree
- Overall height of tree
- Overall spread or drip-line of tree
- DBH (diameter at breast height) in inches
- Number of bracing cables or guy wires
- Any nearby metallic pipes, i.e. water, gas, etc. for common bonding.

Please feel free to request the IPC tree kit, a folder of information, including magazine reprints, price lists and other helpful information related to providing this service.



Product Manufactured by: Independent Protection Co., Inc.
Product Distributed by: Ohio Valley Lightning Protection, Inc.
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Highlights of the New ANSI A300 (Part 4) Standard for Lightning Protection Systems for Trees

Lightning protection systems and standards for tree lightning protection have been in existence since the early 1900's. For many years, the Tree Care Industry Association (formerly NAA) published their own standard for system installation. The former tree standard is based on criteria that is issued by the Lightning Protection Institute (175) and the National Fire Protection Association (780).

In August 2002, TCIA adopted the American National Systems Institute (ANSI) A300 standard (Part 4) for tree lightning protection system installations. The chart below illustrates the major differences for both of these referenced standards. Based on an arborist's preference, they can select the standard they wish to utilize for installation of systems in their tree care business. For tree system estimates, IPC will provide pricing on both of these standards. A complete copy of the ANSI standard is available for purchase by contacting the TCIA office at 800-733-2622.

| Former TCIA (NAA) Standard Based on LPI/NFPA Standard | | New TCIA Adoption ANSI A300 Standard | |
|--|----------|--|------|
| IPC Part # | | IPC Part # | |
| Cable for Main Runs Minimum of 32 Strands of 17 Gauge | 32S | Cable for Main Runs Minimum of 14 Strands of 17 Gauge | 22 |
| Secondary Runs Minimum of 14 Strands of 17 Gauge | 22 | Secondary Runs Minimum of 14 Strands of 17 Gauge | 22 |
| Cable Fasteners Minimum of one every 3 feet | 190/190A | Cable Fasteners Minimum of one every 6 feet | 190A |
| Canopy Coverage Minimum on 3 or more main branches to 7 or 8 on larger trees | | Canopy Coverage So that no aerial portion of the tree is farther than 35 feet from a conductor | |
| Grounding <ul style="list-style-type: none"> • Trees Under 36' dbh <ul style="list-style-type: none"> - Minimum of one main downlead cable and one ground rod • Trees Over 36" dbh <ul style="list-style-type: none"> - Minimum of two main downlead cables and two ground rods | | Grounding <ul style="list-style-type: none"> • Trees Under or over 36' dbh <ul style="list-style-type: none"> - Minimum of one main downlead cable and one ground rod | |
| Ground Rod Locations Outside the drip line of the tree | | Ground Rod Locations Minimum of 10 feet from the trunk | |
| Common Grounding to Metallic Pipes Within 25' of metallic pipes including water service, well casings, gas lines, etc. | | Common Grounding to Metallic Pipes No Requirements | |



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Tree Equipment



#22 - Copper Cable. 14 Strands of 17 gauge smooth twist conductor cable. 1/4" dia. miniature no. 6 size. Wt. 90 lbs. per 1,000 feet. ★



#32S- Copper Cable. 32 strands of 17 gauge smooth twist conductor cable. 15/32" dia. standard no. 2 size. Wt. 215 lbs. per 1,000 feet. ★



#194 - Air Terminal Point for standard #32S conductor cable. Furnished with no. 143 copper nails for attachment. Wt. .38 lb. ea. ★

#195 - Air Terminal Point for miniature #22 conductor cable. Wt. .28 lb. ea. ★



#194D - Drive Type Air Terminal for standard #32S conductor cable. Wt. .44 lb. ea. ★

#195D - Drive Type Air Terminal for miniature #22 conductor cable. Wt. .34 lb. ea. ★



#190 - Tree Drive Fastener for standard #32S conductor cable. Wt. .10 lb. ea. ★

#190A - Tree Drive Fastener for miniature #22 conductor cable. Wt. .08 lb. ea. ★

★ Denotes normally stocked item available for shipment within 48 hours. Items not stocked are available within 14 days.



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Tree Equipment



#3X - Straight Splicer for miniature #22 conductor cable. Wt. .06 lb. ea. ★



#33L- End to End Straight Splicer made of pressed copper. 3 3/4 in length for standard #32S cable. Wt. .10 lb. ea. ★



#193A - Side by Side Splicer made of cast copper/bronze for two standard #32S cables. 2" in length. Wt. .22 lb. ea. ★



#193X - Side by Side Splicer made of cast copper/bronze for one standard #32S cable and one miniature #22 cable or for two miniature #22 cables. Wt. .06 lb. ea. ★



#198 - Fork Type Ground Connector. "Y" type connector is made of cast copper/bronze. Wt. .38 lb. ea. ★



#25G - Bronze Small 1" All Purpose Connector with bolt, nut and washer for connecting two cables through 1/2" dia. Adjusts to various size cables. Wt. .28 lb. ea. ★



#297A - Bronze Large Many Purpose Clamp heavy duty, for clamping two standard cables through 1/2" and/or 1/2" and 5/8" rods. 2" long. Wt. .38 lb. ea. ★

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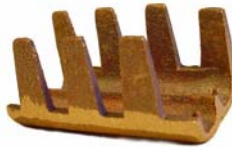
Tree Equipment



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#193A - Side by Side Splicer made of cast copper/bronze for two standard #32S cables. 2" in length. Wt. .22 lb. ea. ★



#193X - Side by Side Splicer made of cast copper/bronze for one standard #32S cable and one miniature #22 cable or for two miniature #22 cables. Wt. .06 lb. ea. ★



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