



SECTION 16520

LIGHTING POLES, STANDARDS AND BASES

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**** NOTE TO SPECIFIER ** Terracast; Classic Lamp Posts POLYSTEEL™ Light Poles and Posts.**

This section is based on the products of Terracast, which is located at:

.....1100 S. Powerline Rd. Suite 220.

.....Deerfield Beach, FL 33442.

Tel: (305) 895-9525.

Fax: (305) 895-7879.

Email: info@terraCastproducts.com.

Web: <http://www.terraCastproducts.com>.

Classic Lamp Posts™ has been providing the Architectural, Municipal and End-User market with light poles, lamp posts, bollards, mailboxes and light globes for more than 30 years.

We encourage you to call our office to find the closest salesperson to you!

TerraCast Products is home to our other corporate brands, TerraCast® Planters and TerraCast® Site Furnishings.

PART 1 GENERAL

1.1 SECTION INCLUDES

**** NOTE TO SPECIFIER ** Delete items below not required for project.**

A. Light Poles.

B. Light Posts.

1.2 RELATED SECTIONS

**** NOTE TO SPECIFIER ** Delete any sections below not relevant to this project; add others as required.**

A. Section 16500 - Lighting.

B. Section 16521 - Site Lighting

1.3 REFERENCES

**** NOTE TO SPECIFIER ** Delete references from the list below that are not actually required by the text of the edited section.**

- A. Underwriters Laboratories.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Provide plan, section, elevation and perspective drawings for all poles, heads, or custom designed combinations. Drawings will show actual sizes and measurements for installations.

**** NOTE TO SPECIFIER ** Delete selection samples if colors have already been selected.**

- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Core Samples: A cross section may be required for material identification, and wall thickness calculations. Please request a core sample from Classic Lamp Posts or an official representative of the manufacturer only.
- F. Verification Samples: For each finish product specified, two samples, minimum size 4 inches (150 mm) circle representing actual product, color, and patterns.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of ten (10) years experience.
- B. Installer Qualifications: All products listed in this section are to be installed by a single installer with a minimum of five (5) years demonstrated experience in installing products of the same type and scope as specified.

**** NOTE TO SPECIFIER ** Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.**

- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Unpack all light poles and parts after shipment to check materials for damage.
- B. Store products in manufacturer's unopened packaging until ready for installation.
- C. Protect light poles from damage during storage by storing vertically out of the way of operations. Refrain from storing Classic Lamp Posts in a horizontal manner on the floor.
- D. Store light poles and matching products away from dust and extreme heat. Do not

stand or walk on Light Poles or Posts.

- E. No secondary equipment, cranes, or lift trucks are necessary on site to manage delivery.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Contractor to provide sufficient structural support for Classic Lamp Posts. Unless otherwise specified, light poles shall be stored and installed by a licensed contractor.
- C. Anchor Base light poles shall be mounted to concrete pads, either poured in place or precast.
- D. Burial base poles must be embedded in concrete with a minimum tensile strength of 3000 PSI.

1.8 WARRANTY

- A. At project closeout, provide to Owner or Owners Representative an executed copy of the manufacturer's standard three (3) year limited warranty against manufacturing defect, outlining its terms, conditions, and exclusions from coverage.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Terracast® Products LLC, which is located at: 1100 S. Powerline Rd. Suite 220 ; Deerfield Beach, FL 33442; Tel: 305-895-9525; Fax: 305-895-7879; Email: [request info \(info@terracastproducts.com\)](mailto:info@terracastproducts.com); Web: terracastproducts.com

**** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.**

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 POLYSTEEL MATERIALS

- A. All parts shall be constructed of a combination of Linear Low Density Polyethylene, Polyurethane foam and a galvanized steel pole for structure. The resin parts shall be made by rotational molding using Natural Gas and reclaimed water for heating and cooling, respectively. This processes the finished product, PolySteel.
- B. Linear Low Density Polyethylene (LLDPE) may be up to 100 percent Post-Consumer recycled material unless project requirements dictate otherwise. External shell to have a 1/4 inch (6mm) wall thickness throughout the entire lamp post.
 - 1. LLDPE resin shall be compounded by a reputable manufacturer. All lamp post shells will be fabricated of 100 percent resin - inorganic fillers will not be acceptable. All material will contain ultraviolet inhibitors, and can contain Flame retardant and anti-microbial additives as necessary.
 - 2. Lamp Posts are not painted, primed, baked, layered, coated with enamel, or powder coated; each pole is a rotationally molded pre-colored composite

containing three distinct layers. Colors will not peel away as the colored material wall is a nominal 1/4 inch (6mm) thickness. Scratches, scrapes, and vandalism will not reveal a secondary under coat color, which would be much more conspicuous than a color thru material.

3. Standard color is black, any other color is available. Granite finishes will use proprietary amounts of blended colors, thoroughly amalgamated with natural polymer resin, and applied to the molds which have been treated with a mold release agent.
 4. The material must not rust, pit, corrode, or rot. The LLDPE must be non-hydroscopic, disallowing the penetration of water or other environmental elements.
- C. Steel core shall be made from material that is no less than eighty percent (80 percent) recycled.
1. Classic Lamp Posts also produces a PolyComposite pole, designed for installations where supreme wind loading is necessary. The PolyComposite pole is made similarly to PolySteel, but its core is made from a tapered fiberglass pole.
- D. Performance:
1. Density: 0.91-0.94 g/cubic cm.
 2. Surface hardness: SD48.
 3. Tensile strength: 20 MPa.
 4. Flexural modulus: 0.35 GPa.
 5. Notched izod: 1.06+ kJ/m.
 6. Linear expansion: 20×10^{-5} / Degrees C.
 7. Elongation at break: 500 percent.
 8. Strain at yield: 20 percent.
 9. Water absorption: 0.01 percent.
 10. Oxygen index: 17 percent.
 11. Flammability: UL94 HB.
 12. Volume resistivity: 10^{16} ohm-cm
 13. Dielectric strength: 25 MV/m.
 14. Dissipation factor: 1 kHz 909090.
 15. Dielectric constant: 1 kHz 2.3.
 16. HDT @ 0.45 MPa: 45 Degrees C.
 17. HDT @ 1.80 MPa: 37 Degrees C.
 18. Material drying: NA.
 19. Melting Temp. Range 120 to 160 Degrees C.
 20. Mould Shrinkage: 3 percent.

2.3 FABRICATION

- A. Fabricate Classic Lamp Posts, PolySteel Light Poles to be fabricated by specific molds in specific shapes and sizes. The LLDPE powder shall be weighed out to precisely the amount necessary to create an evenly thick wall section. This LLDPE is poured by a trained employee into the open cavity of the rotational mold. The two (or three) piece mold, which has been shot peened and then spring mounted on a steel tube frame, is clamped shut, and sent into the oven to bake. The finished plastic resin material shall be approximately 1/4 (6mm) inch thick and thicker in those areas requiring additional structural strength.
- B. All lamp posts shall be made by Rotational Molding using TerraCast parts.
- C. All PolySteel Lamp Posts shall have either 12 or 16 gauge steel sections whose tensile strength and wind load is determined by a Florida Registered Wind Engineer. All wind load calculations are a figure of the EPA of the post top fixture and shall be

considered before a final selection is made.

- D. Please refer to the in ground burial instructions, or those found with the anchor bolt template and diagram for proper installation guidelines.
- E. Classic Lamp Posts PolySteel poles will not be susceptible to cracking, chipping or breaking caused by inclement weather.
- F. Finish: All light poles, lamp posts and related products will have a shiny, glossy, finish. Shiny finishes are created by a specialized flame treatment. All finishes are provided by the factory.
- G. Sizes: All units are made by manufacturer as required to fill specified orders from seven to twelve feet above ground, and PolyComposite poles in 12 foot, 14 foot and 16 foot. Please refer to catalog for standard sizes. Custom sizes and shapes available as per customers' specs. Before production, customer will approve shop drawings.
- H. Fire retardant and Anti-microbial requirements can be satisfied by adding retardant chemicals to the resin blends. Additional information is available for this portion of the specification.

2.4 NEW ENGLAND LIGHT POLES AND BASES

A. New England Lamp Post.

**** NOTE TO SPECIFIER ** Select Height. Delete one of the next two paragraphs.**

1. Pole Height: 7 feet (2134mm).
2. Pole Height: 9 feet (2743mm).

**** NOTE TO SPECIFIER ** Select Arm. Delete one of the next two paragraphs or both if no arm is required.**

3. Arm: Victorian 4-Arm (V4).
4. Arm: Victorian 5-Arm (V5).

**** NOTE TO SPECIFIER ** Select Lamp. Delete four of the next five paragraphs or all five if no arm is required.**

5. Luminaire: Round Globe (S16).
6. Luminaire: Acorn Globe (A17/INC).
7. Luminary: Richmond Acorn Globe (RA20).
8. Luminary: Victorian Acorn Globe (VA24).
9. Luminary: Williamsberg (W20).
10. Luminary: Fairview (F20).
11. Luminary: Carriage House (CH30).
12. Luminary: Le Briton (LB27).
13. Luminary: Woodside Hills (WH30).

B. The Washington Lamp Post.

**** NOTE TO SPECIFIER ** Select Height. Delete three of the next four paragraphs.**

1. Pole Height: 7 feet (2134mm).
2. Pole Height: 9 feet (2743mm).
3. Pole Height: 12 feet (3658mm).
4. Pole Height: 16 feet (4877mm).

**** NOTE TO SPECIFIER ** Select Arm. Delete four of the next five paragraphs or all five if no arm is required.**

5. Arm: Scroll Sconce.
6. Arm: Victorian Sconce.
7. Arm: Scroll Cross Arm.
8. Arm: Victorian 4-Arm (V4).

9. Arm: Victorian 5-Arm (V5).

**** NOTE TO SPECIFIER ** Select Lamp. Delete four of the next five paragraphs or all five if no arm is required.**

10. Luminary: Round Globe (S16).
11. Luminary: Acorn Globe (A17/INC).
12. Luminary: Richmond Acorn Globe (RA20).
13. Luminary: Victorian Acorn Globe (VA24).
14. Luminary: Williamsberg (W20).
15. Luminary: Fairview (F20).
16. Luminary: Carriage House (CH30).
17. Luminary: Le Briton (LB27).
18. Luminary: Woodside Hills (WH30).

C. The Madison Lamp Post.

**** NOTE TO SPECIFIER ** Select Height. Delete one of the next two paragraphs.**

1. Pole Height: 12 feet (3658mm).
2. Pole Height: 16 feet (4877mm).

**** NOTE TO SPECIFIER ** Select Arm. Delete four of the next five paragraphs or all five if no arm is required.**

3. Arm: Scroll Sconce.
4. Arm: Victorian Sconce.
5. Arm: Scroll Cross Arm.
6. Arm: V-4 - Victorian 4-Arm.
7. Arm: V-5 - Victorian 5-Arm.

**** NOTE TO SPECIFIER ** Select Lamp. Delete four of the next five paragraphs or all five if no arm is required.**

8. Luminary: Round Globe (S16).
9. Luminary: Acorn Globe (A17/INC).
10. Luminary: Richmond Acorn Globe (RA20).
11. Luminary: Victorian Acorn Globe (VA24).
12. Luminary: Williamsberg (W20).
13. Luminary: Fairview (F20).
14. Luminary: Carriage House (CH30).
15. Luminary: Le Briton (LB27).
16. Luminary: Woodside Hills (WH30).

D. The Madison Lamp Post Base.

**** NOTE TO SPECIFIER ** Select Base Type. Delete one of the next two paragraphs.**

1. Type: Madison Slip-Over Base.
2. Type: Madison Clam Shell Base.

2.5 LIGHT POLE ACCESSORIES

- A. Banner Arms, Street Signs, Parking Meters, screw-eyes, receptacles and other accessories are available for an additional charge. Please specify quantity, size, and capacity as needed.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION