SECTION 03 10 00

CONCRETE FORMS AND ACCESSORIES

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\*\* NOTE TO SPECIFIER \*\* Ceme-Tube: concrete forming tubes for footings, pour in place bollards, light pole base footings, columns and piers.
 This section is based on the products of Ceme-Tube, which is located at:
 579 Schommer Dr.
 Hudson, WI 54016
 Phone: 715-377-2133
 Fax: 715-377-2135
 Email: info@cemetube.com
 Web: [www.cemetube.com](http://www.cemetube.com)
[Click Here] for additional information.
 All CEME-TUBE pier forming tubes are fabricated from partially recycled HDPE plastic and are far superior in every aspect to conventional cardboard forming tubes. CEME-TUBE forms are impervious to moisture, before and after pouring. They eliminate all issues found with conventional cardboard forming tubes.
 CEME-TUBE Standard model forms are available in 8, 10, 12, 18, 24, and 30 inch size diameters. All models are 4 foot in length, but have an integral collar on one end to allow stacking of Ceme-Tubes for longer lengths. The 8, 10, and 12 inch models are smooth and uniform in diameter. The 18, 24, and 30 inch models are Gen2 models and have integral reinforcement ribs to keep them structurally round for heavy backfill applications.
CEME-TUBE Bollard model forms are available in 8 inch only, and they are Safety Yellow in color. Each Bollard model comes with an 8 inch x 4 foot below grade section, an 8 inch x 4 foot Safety Yellow above grade section, a dome cap and hardware. After filling this assembly with concrete and rebar, the installation is complete and is maintenance free. Engineering Note: The 8 inch diameter Ceme-Tube Bollard filled with concrete and 4 pieces of 3/4 inch diameter rebar is equal in strength to a 5 inch diameter schedule 40 steel pipe filled with concrete. If more strength is required, simply add more rebar.
CEME-TUBE Light pole model is available in 18 inch, 24 inch and 30 inch diameters. 18 inch and 30 inch diameters are only available in Safety yellow, but the 24 inch diameter is available in Caution Yellow, Architectural Bronze, and Concrete Gray. All models are 4 feet in length. The 24 inch x 4' foot Standard black CEME-TUBE will connect to the Light pole model to provide deeper footings as necessary. All models have a collar on one end to facilitate stacking on another Ceme Tube for longer lengths as needed. The 18, 24, and 30 inch models are Gen2 models and have integral reinforcement ribs to keep them structurally round for heavy backfill applications.

1. GENERAL
	1. SECTION INCLUDES
		1. Plastic, single use round forms for cast-in-place concrete applications including the following:

\*\* NOTE TO SPECIFIER \*\* Delete applications not required.

* + - 1. Concrete piers and footings.
			2. Concrete light pole bases.
			3. Concrete pour-in-place bollards.
	1. RELATED SECTIONS
		1. Section 03 30 00 - Cast-in-Place Concrete.
	2. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Manufacturer's Data: Product data sheets and installation instructions.
	3. DELIVERY, STORAGE, AND HANDLING
		1. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
		2. Store forms in accordance with manufacturer's instructions. Store all product upright, and do not allow the colored Ceme Tubes to roll on their side. Protect from abrasive abuse.
		3. Protect forms during handling and erection to prevent damage.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Ceme-Tube LLC, which is located at: 579 Schommer Dr. Suite F; Hudson, WI 54016; Tel: 715-377-2133; Fax: 715-377-2135; Email: [request info (info@cemetube.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Ceme-Tube+LLC&coid=44560&rep=&fax=715-377-2135&message=RE:%20Spec%20Question%20(03100cem):%20%20&mf=); Web: <http://www.cemetube.com>

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

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Delete paragraph below if no Standard Ceme-Tube required for Project.

* 1. CONCRETE PIER FORMS
		1. Round HDPE Plastic Forms for Piers and Footings: Standard Ceme-Tube by Ceme-Tube with the following characteristics:
			1. Material: Heavy duty seamless HDPE plastic, impervious to moisture, friction frost heave, and job site abuse.
			2. Appearance: Uniform smooth appearance, without spiral form lines.
			3. Length: All diameters are 4 feet (1219 mm). in length. All models have an integral collar to allow stacking together for additional length..

\*\* NOTE TO SPECIFIER \*\* Delete options below not required.

* + - 1. Diameter: 8 inch (203 mm).
			2. Diameter: 10 inch (254 mm).
			3. Diameter: 12 inch (305 mm).
			4. Diameter: 18 inch (457 mm). Gen2 model with reinforcement ribs to keep round and add structural strength for backfill.
			5. Diameter: 24 inch (610 mm). Gen2 model with reinforcement ribs to keep round and add structural strength for backfill.
			6. Diameter: 30 inch (762 mm). Gen2 model with reinforcement ribs to keep round and add structural strength for backfill.
			7. Diameter: Refer to the drawings.

\*\* NOTE TO SPECIFIER \*\* Delete below if not required.

* + - 1. Domed Cap:Match size of forming tube.

\*\* NOTE TO SPECIFIER \*\* Delete paragraphs below if no bracing and stacking required. Discuss bracing requirements with manufacturer.

* + - 1. Integral Collar for Bracing and Stacking for Form Diameters up to 24 Inches: Integral collar on one end shall allow units to be braced and stacked to produce piers or footings up to 20 feet (6 meters) tall in one pour.
			2. Integral Collar for Bracing and Stacking for Form Diameter of 30 Inches: Integral collar on one end shall allow units to be braced and stacked to produce piers or footings up to 12 feet (3.7 meters) tall in one pour.

\*\* NOTE TO SPECIFIER \*\* The 18 inch model and 30 inch model come in Safety Yellow only, but the 24 inch comes in Safety Yellow, Architectural Bronze, and Concrete gray with granite fleck Delete paragraph below if no Light Pole Ceme-Tube required for Project.

* 1. LIGHT POLE FOOTING FORMS
		1. Round HDPE Plastic Forms for Light Pole Footings: Light Pole Ceme-Tube by Ceme-Tube with the following characteristics:
			1. Material: Heavy duty seamless HDPE plastic, impervious to moisture.

\*\* NOTE TO SPECIFIER \*\* Delete colors not required.

* + - 1. Color: Caution Yellow.
			2. Color: Architectural Bronze.
			3. Color: Concrete Gray with granite fleck.
			4. Color: Standard black color on below grade tubes. Heavy duty seamless HDPE plastic, impervious to moisture.
			5. Appearance: Uniform smooth appearance, without spiral form lines.
			6. Length: All models are 4 feet (1219 mm). All models have an integral collar to allow stacking together for additional length.
			7. Gen2 model with reinforcement ribs to keep round and add structural strength for backfill.

\*\* NOTE TO SPECIFIER \*\* Delete diameter below not required.

* + - * 1. Diameter: 18 inch (457 mm), with 15 inch (381 mm) diameter hole on top of the tube facilitating pouring, finishing, light pole installation, and reinforcement ribs on the tube for added strength.
				2. Diameter: 24 inch (610 mm), with 17 inch (432 mm) diameter hole on top of the tube facilitating pouring, finishing, light pole installation, and reinforcement ribs on the tube for added strength.
				3. Diameter: 30 inch (762 mm), with 18 inch (457 mm) diameter hole on top of the tube facilitating pouring, finishing, light pole installation, and with reinforcement ribs for added strength.

\*\* NOTE TO SPECIFIER \*\* Delete paragraphs below if no bracing and stacking required. Discuss bracing requirements with manufacturer.

* + - 1. Integral Collar for Bracing and Stacking for Form Diameters up to 24 Inches: Integral collar on one end shall allow units to be braced and stacked to produce piers or footings up to 20 feet (6 meters) tall in one pour.
			2. Integral Collar for Bracing and Stacking for Form Diameter of 30 Inches: Integral collar on one end shall allow units to be braced and stacked to produce piers or footings up to 12 feet (3.7 meters) tall in one pour.

\*\* NOTE TO SPECIFIER \*\* Delete paragraph below if no Bollard Ceme-Tube required for Project.

* 1. BOLLARD FORMS
		1. Round HDPE Forms for Bollards: Bollard Ceme-Tube with 8 inch (203 mm) diameter by Ceme-Tube with the following characteristics:
			1. Material: Reflective yellow color above grade and standard black color below grade, heavy duty seamless HDPE plastic, impervious to moisture.
			2. Appearance: Uniform smooth maintenance free appearance, without spiral form lines. Comes with dome cap to finish installation after pouring.
			3. Length: 4 feet (1219 mm) above grade yellow tube. Can be made taller by adding additional yellow tubes. Below grade tube is 4 feet (102 mm). Can be made longer by adding additional black below grade tubes.

\*\* NOTE TO SPECIFIER \*\* Delete options below not required.

* + - 1. Dome Cap: Included; match size of forming tube.
			2. Finished upon filling with concrete and rebar.
1. EXECUTION
	1. EXAMINATION
		1. Examine areas to receive forming tubes. Notify Architect if areas are not acceptable. Do not begin erection until unacceptable conditions have been corrected.
	2. INSTALLATION
		1. Place and brace forming tubes in accordance with manufacturer's instructions.
		2. Protect above grade "colored" Ceme Tubes from abrasive job site damage. Store upright, and do not allow them to roll on their sides.
		3. Erect forming tubes at locations and to elevations as indicated on the Drawings. Erect forming tubes plumb. Bollard forming tubes can be trimmed to proper elevation after setting and before filling with concrete.
		4. Do not use forming tubes that are damaged or contain defects.
		5. Use waterproof sheeting around Light Pole and Bollard Ceme Tubes to help keep uncured concrete from staining the outside finished surfaces. If concrete is spilled on outside surfaces, wash off with water and a sponge before it cures.

\*\* NOTE TO SPECIFIER \*\* Delete paragraph below if forms may remain in place.

* + 1. Remove forms if necessary, in accordance with manufacturer's recommendations after concrete has achieved design strength.

END OF SECTION