SECTION 12 14 00

OUTDOOR SCULPTURE AND ORNAMENTAL WORK

Display hidden notes to specifier. (Don't know how? [Click Here](http://www.arcat.com/sd/display_hidden_notes.shtml))

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\*\* NOTE TO SPECIFIER \*\* Kenneth Lynch & Sons; decorative precast site furnishings.
 .
 This section is based on the products of Kenneth Lynch & Sons, which is located at:
114 Willenbrock Rd.
Oxford, CT 06478
Tel: 203-264-2831
Fax: 203-264-2833
Email: [request info (maria@klynchandsons.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Kenneth+Lynch+%26+Sons&coid=33567&rep=&fax=203-264-2833&message=RE:%20Spec%20Question%20(02885kls):%20%20&mf=)
Web: [www.klynchandsons.com](http://www.klynchandsons.com)
 [ [Click Here](http://www.arcat.com/arcatcos/cos33/arc33567.html) ] for additional information.
Kenneth Lynch & Sons is located in Wilton, CT. We are an industry leader in providing site furnishings including statuary and fountains in cast stone, lead and bronze, weathervanes, sundials, park benches and topiary.
 Statuary: Kenneth Lynch & Sons produces thousands of ornamental products from cast stone, Lead and Bronze, such as Garden Statuary.
 Animal Statuary: Our lead products are made of 99.5 percent pure lead. Where necessary they are reinforced with brass, bronze or stainless steel to give them the strength that lead does not have.
 All "Stone" products are actually "cast stone" which is a concrete product.
 Topiary: Made with a stainless steel frame and vinyl coated wire with stainless steel wire and hog rings for fasteners. The stainless steel is then painted green.
 Fountains & shells, bird baths, raintrees, borders, cisterns and rosettes, planters, urns and finials, pedestals, oriental pieces, masks & plaques,
 Sundials and Directional Markers: Made of bronze, lead, cast stone or iron, are meant to be ornaments. Within the limits of practicality we try to make our larger sundials reasonably accurate.
 Weathervanes: Constructed of non-ferrous materials - copper, bronze, aluminum, & stainless steel.
 Benches: Wooden bench seats are made of Ipe (Tabebuia) wood. The Ipe is naturally antifungal, very dense and very hard. Iron castings are of break resistant Ductile Iron. Wrought Iron benches are hand crafted. Cast stone benches are made in rubber or fiberglass molds.

1. GENERAL
	1. SECTION INCLUDES

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

* + 1. Precast concrete decorative site furnishings and ornamental work.
	1. RELATED SECTIONS

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

* + 1. Section 12 93 43.53 - Site Tables.
		2. Section 04 05 19.29 - Stone Anchors.
		3. Section 04 21 29 - Terra Cotta Masonry.
		4. Section 07 91 26 - Joint Fillers.
	1. REFERENCES

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

* + 1. ASTM International (ASTM):
			1. ASTM A 36 - Standard Specification for Structural Steel.
			2. ASTM A 82 - Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.
			3. ASTM A 153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
			4. ASTM A 184 - Standard Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
			5. ASTM A 185 - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.
			6. ASTM A 283 - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates.
			7. ASTM A 497 - Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile.
			8. ASTM A 615 - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
			9. ASTM C 31 - Standard Practice for Making and Curing Concrete Test Specimens in the Field.
			10. ASTM C33 - Standard Specification for Concrete Aggregates.
			11. ASTM C 39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
			12. ASTM C 91 - Standard Specification for Masonry Cement.
			13. ASTM C 97 - Standard Test Methods for Absorption and Bulk Specific Gravity of Dimension Stone.
			14. ASTM C 144 - Standard Specification for Aggregate for Masonry Mortar.
			15. ASTM C 150 - Standard Specification for Portland Cement.
			16. ASTM C 207 - Standard Specification for Hydrated Lime for Masonry Purposes.
			17. ASTM C 260 - Standard Specification for Air-Entraining Admixtures for Concrete.
			18. ASTM C 404 - Standard Specification for Aggregates for Masonry Grout.
			19. ASTM C 494 - Standard Specification for Chemical Admixtures for Concrete.
			20. ASTM C 642 - Standard Test Method for Density, Absorption, and Voids in Hardened Concrete.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. [ 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.
			4. Test results of physical properties.
		3. Shop Drawings: Submit shop and assembly drawings.
			1. Prepare complete, properly marked setting drawings, showing details and sizes of stones; arrangement of joints; bonding; inserts; joints; connections to adjoining walls or materials; reinforcing; and method of installation and anchoring.
		4. Models and Moulds:
			1. Provide models of custom ornaments. Models shall be prepared by skilled craftsmen in a correct and artistic manner in strict accordance with the spirit and intent of the approved drawings. Models shall be approved by the Architect before the work is fabricated.

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

* + 1. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's available matching colors.
		2. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.
	1. QUALITY ASSURANCE
		1. Manufacturer's Qualifications:
			1. The Manufacturer shall have a minimum of five years continuous operation having experience, adequate facilities and capacity to furnish the quality, sizes and quantity of cast stone required without delaying the progress of the work, and whose products have been previously used and exposed to the weather with satisfactory results.

\*\* 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.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
			1. Provide product in areas designated by Architect.
			2. Do not proceed with remaining work until workmanship and installation are approved by Architect.
		2. Testing:
			1. Testing shall be performed in accordance with ASTM C 31, ASTM C 39 and ASTM C 642 except that 2 inches (51 mm) cube specimens shall be used, oven-dried in accordance with ASTM C 97.
			2. Test results shall be determined by the average of three specimens per test.
			3. The results of compression tests shall be divided by a factor of 0.8 when saw-cut or core-drilled specimens are used.
	1. DELIVERY, STORAGE, AND HANDLING
		1. Cast stone shall be carefully loaded and packed for transportation exercising customary and reasonable precaution against damage while in transit.
		2. Cast stone shall be received and unloaded at the project site by competent workmen with the necessary care and handling to avoid damage and soiling.
		3. Cast stone shall be stored clear of the ground on non-staining planking or pallets in such a manner to be protected from damage. Cast stone stored for an extended period, shall be covered with polyethylene or other non-staining waterproof material.
		4. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.
	2. PROJECT CONDITIONS
		1. 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.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Kenneth Lynch & Sons, which is located at: 114 Willenbrock Rd.; Oxford, CT 06478; Tel: 203-264-2831; Fax: 203-264-2833; Email: [request info (maria@klynchandsons.com)](http://admin.arcat.com/users.pl?action=UserEmail&company=Kenneth+Lynch+%26+Sons&coid=33567&rep=&fax=203-264-2833&message=RE:%20Spec%20Question%20(02885kls):%20%20&mf=); Web: [www.klynchandsons.com](http://www.klynchandsons.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.
	1. PRODUCTS

\*\* NOTE TO SPECIFIER \*\* Delete the following if products are not specified by model numbers.

* + 1. Manufacturers Model Numbers:
			1. Statuary: \_\_\_\_\_\_.
			2. Animal Statuary: \_\_\_\_\_\_.
			3. Fountains, Pool Curbing and Shells: \_\_\_\_\_\_.
			4. Birdbath: \_\_\_\_\_\_.
			5. Rosettes: \_\_\_\_\_\_.
			6. Planters: \_\_\_\_\_\_.
			7. Urns: \_\_\_\_\_\_.
			8. Finials: \_\_\_\_\_\_.
			9. Pedestals: \_\_\_\_\_\_.
			10. Oriental Pieces: \_\_\_\_\_\_.
			11. Masks: \_\_\_\_\_\_.
			12. Plaques: \_\_\_\_\_\_.
	1. MATERIALS
		1. Cement: Portland Type I or Type III white and/or grey meeting ASTM C 150.
		2. Fine Aggregate: Carefully graded and washed natural sands, or limestone sands meeting ASTM C 33 except that gradation may vary to achieve desired finish and texture.
		3. Coarse Aggregate: Carefully graded and washed limestone or other durable stone meeting ASTM C 33 except that gradation may vary to achieve desired finish and texture.
		4. Color: Colors added shall be inorganic (natural or synthetic) iron oxide pigments meeting ASTM C 979 excluding the use of a cement grade of carbon black pigment, and shall be guaranteed by the pigment manufacturer to be lime-proof. The amount of pigment shall not exceed 10 percent by weight of the cement used.
		5. Admixtures: ASTM C 494.
		6. Water: Potable tap-water free from impurities.
		7. Air Entrainment: Wet cast mixtures shall contain 5 percent to 7 percent air entrainment where surfaces are exposed to freeze-thaw. Admixture shall meet ASTM C 260.
	2. FABRICATION
		1. Mix Design:
			1. The manufacturer shall be responsible to design a mix which achieves both the strength and the surface finish required for the installation and application.
			2. Compressive strength shall be not less than 5000 psi (34.5 MPa) at 28 days.
			3. Average water absorption of cast stone shall not exceed 6 percent by dry weight.
		2. Reinforcement: Cast stone shall be reinforced with fiberglass strands, fiberglass grids, new billet steel reinforcing bars meeting ASTM A 615, grade 40 or grade 60, cold-drawn steel wire reinforcement meeting ASTM A 82, welded wire fabric reinforcement meeting ASTM A 185 or ASTM A 497 or steel bar or rod mat reinforcement meeting ASTM A 184 as determined by the manufacturer.
	3. FINISH
		1. Finish: Finish of cast stone shall be generally equal to the approved sample when viewed in direct daylight at a 10 foot (3 meters) distance.
		2. Surface Texture: Exposed surface shall exhibit a typically fine grained texture similar to natural stone with no bugholes.
		3. Color: The range of total acceptable color (lightness, color saturation and hue) variation shall not exceed CIELAB 3.0 provided that the difference in hue alone does not exceed CIELAB 1.0 as defined by the International Commission on Illumination, 1976 Standards.
	4. TOLERANCES
		1. Stone Dimensions: The numerically greater of plus or minus 1/8 inch (3 mm) or length/360.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until grades and landscape have been properly prepared.
	2. INSTALLATION
		1. Erect and install in accordance with manufacturer's instructions.
		2. Setting Tolerances: Plus or minus 1/8 inch (3 mm) allowable out of plane from adjacent unit.
		3. Cast stone shall be set by experienced masons, accurately and in accordance with the shop and setting drawings. Unless otherwise noted, every stone shall be set in a full bed of mortar with all vertical joints flushed full. All anchors and dowels shall be firmly placed and all anchor holes and dowel holes and similar holes filled completely with mortar or non shrink grout.
		4. Cast stone anchors shall be a non-corrosive material such as Galvanized Steel, Brass or Stainless Steel Type 302 or 304.
		5. Mortar set units shall be drenched with clear water just prior to setting.
		6. Joints shall be raked to a depth of 3/4 inch (19 mm) from the face for pointing. The face of each unit shall then be sponged off to remove any splashed mortar or mortar smears.
		7. The ends of lugged sills and similar units shall be embedded in mortar. The balance of joint to be left open until pointing of stone work, than tuck points on face only to a depth of 3/4 inch (19 mm).
		8. Units shall be protected from splashing mortar or damage by other trades. Any foreign matter splashed on the cast stone shall be removed immediately.
	3. POINTING
		1. Joints shall be dampened and carefully pointed to a slight concave unless otherwise specified by the Architect. No pointing shall be done in freezing weather nor in locations exposed to hot sun, unless properly protected.
		2. Pointing mortar shall be composed of 1 part non-staining cement (ASTM C 91), 1 part hydrate lime (ASTM C 207,Type S) and 4 parts of clean, washed sand (ASTM C 144). Coloring pigments added as required to match approved sample. The Architect shall approve color of pointing mortar before proceeding with pointing.
	4. PATCHING AND CLEANING
		1. Repair of chipped or damaged cast stone shall be done only by mechanics skilled in this class of work.
		2. The face of the cast stone to be repaired shall be scrubbed with a fiber brush, using soap powder and water and shall then be thoroughly rinsed with clean running water. Any mortar on the face of the cast stone shall be removed. No acids or prepared cleaners shall be used without the approval of the cast stone Manufacturer.
		3. Cast stone shall show no obvious repairs or imperfections other than minimal color variations when viewed with the unaided eye at a 20 ft (6 meters) distance in good typical daylight illumination
	5. PROTECTION
		1. Protect installed products until completion of project.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION