

Rockwerx Createk Stone Artificial Rock Play Structure Installations (Short Form version)

Rockwerx Createk Stone composite polymer fabrications have over 15 years of widespread daily use in custom installations for Disney, Cabella's, and other popular outdoor and indoor rock landscape and recreation settings. Createk Stone meets owner needs in a wide variety of applications, including zoo habitats, aquariums, resorts, pool environments, water features, rock gardens, rock climbing walls, site furnishings, and as components of natural playgrounds. Createk Stone is well known for its remarkable ability to mimic natural stone with through-colored, UV-stable, lightweight components. Additional Createk treatments can include artificial snow and ice, trees, plantings, and artificial wood surfaces.

The non-leaching, non-fading characteristics of Createk composite polymer fabrications make them the product of choice for facility owners looking for low-maintenance, high-realism rock and plant installations.

Createk Stone can withstand exposure to water, heat, cold, and sun. It typically withstands water pressure up to 2500 psi. A through-colored composite polymer material, it requires no treatment if chipped. This lightweight but extremely durable alternative to much heavier and harder cast products weighs only 2.25 psf for a typically 1/2 to 3/4 inch thick casting – 5 times lighter than similar GFRC products - making it easy to transport and install. It is available in a variety of standard colors and custom colors. Its very high UV resistance preserves the selected color for decades of exposure and use without the need for applied coatings. A Class 1 fire rating allows use in most interior applications. Createk Stone's superior material characteristics are backed by the manufacturer's 10 year warranty.

Createk's designers can work with architects and landscape architects to detail and customize artificial stone features utilizing turnkey 3-D design services, creating both virtual and physical models of proposed installations. Createk Stone can be customized to reproduce almost any design or moldable surface. More extensive installations include engineered structural supports.

Rockwerx products are found in the following MasterFormat 2010 sections:

Section 11 66 00.01 CLIMBING WALLS Rockwerx Natural Rock cast polymer engineered climbing structures

Section 11 66 00.02 CLIMBING WALLS Rockwerx GymRock modular panel engineered climbing walls

Section 11 68 13 ARTIFICIAL ROCK PLAY STRUCTURES Createk cast polymer play structures (interior or exterior – when playground design safety standards apply to the installation)

Section 12 92 13 INDOOR ARTIFICIAL PLANTS Createk cast polymer tree and plantscapes

Section 12 92 15 EXTERIOR ARTIFICIAL PLANTS Createk cast polymer tree and plantscapes

Section 32 39 33 ARTIFICIAL ROCK FABRICATIONS Createk cast polymer display installations (interior and exterior non-playground installations: museum and retail displays, non-accessible water features, aquariums, and similar installations)

For more information, contact Createk at (877)595-4155, info@createkstone.com, www.createkstone.com.

SECTION 11 68 13 – ARTIFICIAL ROCK PLAY STRUCTURES

Specifier: This section may be edited for interior or exterior installations playground and play structure applications with steel or wood substructures. A companion specification section is available from Createk for installations not used as play structures. A full length version of this section is available for projects with less complex requirements.

Delete references to standards or construction not required on a project by project basis.

PART 1 - GENERAL

1.1 SECTION INCLUDES

Specifier: Createk Stone installations can reach up to 15 feet in height without internal structural supports. Createk will provide engineering and internal supports for larger installations.

- A. Composite polymer artificial rock play structure installations[, with structural support system].

1.2 ABBREVIATIONS

- A. HDPE: High-density polyethylene.
- B. IPEMA: International Play Equipment Manufacturers Association.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. LEED Submittals:

Specifier: Credit MR 4 may apply for steel items utilized for structural supports as well as use of certain polymers containing recycled content. Consult Createk for availability and percentages.

- 1. Credit MR 4: Submit documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include cost statement for each product.

Specifier: Credit MR 6 may apply for cast polymer products utilizing bio-based polymer resins in lieu of petroleum-based resins. Consult Createk for availability and percentages.

- 2. Credit MR 6: Submit documentation indicating percentages of rapidly renewable material in product. Include cost statement for each product.

Specifier: Credit MR 7 may apply to wood products utilized for structural supports.

- 3. Credit MR 7: Submit chain-of-custody certificates for products indicated as FSC-certified wood. Include cost statement for each product.

- C. Shop Drawings:

1. Include [three-dimensional model,] plans, elevations, sections, and attachment details.
2. Include details of assemblies. Indicate dimensions, methods of field assembly, and components.
3. Detail fabrication and assembly of concealed structure.
4. Indicate coordination for power and control wiring and piping for associated plumbing and lighting systems specified in other sections.
5. Extent of surface systems and use zones for artificial rock installations.
6. Critical heights for playground surfaces, or fall heights for artificial rock installations.
7. Indicate [dead loads] [superimposed loads] [and] [live loads] for artificial rock installations.

D. Samples: For each exposed product and for each color and texture specified.

1.4 INFORMATIONAL SUBMITTALS

A. Sample warranty.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.6 QUALITY ASSURANCE

A. Manufacturer Certification: A firm whose playground equipment components have been certified by IPEMA's third-party product certification service.

1. Provide playground equipment and play structure components bearing the IPEMA Certification Seal.

1.7 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace components of artificial rock installations that fail in materials or workmanship within specified warranty period.

1. Warranty Period: [5] year(s) from date of Substantial Completion.
2. Color Retention Warranty: [10] years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide artificial rock installations by **Createk Stone Inc, Division of Rockwerx**, Barre MA, (877)595-4155, info@createkstone.com, www.createkstone.com.

2.2 ASSEMBLY DESCRIPTION

A. Artificial Rock Installations: Custom-fabricated cast polymer artificial rocks, UV-resistant, through-colored, molded and finished to match approved samples and models, bolted in place for permanent site installation [, with structural support system] [, with integrated water feature] [, with integrated lighting].

2.3 PERFORMANCE AND DESIGN CRITERIA

- A. Structural Performance: Artificial rock installations shall withstand the effects of gravity loads, wind loads, and live loads determined according to ASCE/SEI 7 and requirements of authorities having jurisdiction.

Specifier: Retain and edit requirement in paragraph below if project site is subject to seismic design requirements.

- B. Seismic Performance: Artificial rock installations shall withstand the effects of earthquake motions determined according to ASCE/SEI 7 and requirements indicated.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes for temperature change of 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

Specifier: Retain requirement below for interior applications after verifying that it is required by authorities having jurisdiction. Below will add additional cost to project.

- D. Surface-Burning Characteristics:
 - 1. Flame-Spread Index, ASTM E 84: 25 or less.
 - 2. Smoke-Developed Index, ASTM E 84: [450] or less.
- E. Safety Standards: Manufacture and fabricate artificial rock installations to comply with requirements of ASTM F 1487 and CPSC No. 325.
- F. Accessibility of Surface Systems: According to ASTM F 1951.

2.4 MATERIALS

- A. Polyester Composite: Color impregnated, UV stabilized, non-mold-supporting, formed from corrosion-resistant polyester resin; with 1/2- to 3/4- inch (12 to 18 mm) wall thickness.
 - 1. Consumer Contact Characteristics:
 - a. Food Contact Approval, CFR Title 21, 177.2420: Component ingredients FDA approved.
 - b. Lead Content, CPSC CH-E1002: Less than 40 ppm: Passed.

Specifier: Retain one or both of the following paragraphs and edit as required to stipulate minimum polymer content meeting sustainability requirements. Bio-based material requirement is related to both Federal project sustainability mandates and LEED rapidly renewable materials credits. Recycled content requirement is related to both Federal project sustainability mandates and LEED recycled content credits. Consult with Createk regarding availability of bio-based or recycled content polymers, which vary due to project design and color requirements. Requirements below will affect product cost.

- 1. Bio-Based Material Content of Polymer Fabrications: Provide cast polymer fabrications utilizing bio-based polymer resins[meeting requirements of Division 01 Section "Sustainable Design Requirements"].
- 2. Recycled Content of Polymer Fabrications: Provide cast polymer fabrications utilizing post-consumer recycled content plus one-half of preconsumer recycled content of not less than [25] percent.

Specifier: Retain one of two paragraphs below if internal structural supports are required due to installation size. Consult with Createk representative. Retain paragraph below if steel structural supports are required.

B. Steel Structural Supports:

1. Steel Structural Tubing: ASTM A 500, Grade B, hot-dip galvanized according to ASTM A 123/A 123M.
2. Steel Mechanical Tubing: ASTM A 513, welded steel mechanical tubing, hot-dip galvanized according to ASTM A 123/A 123M.

Specifier: Retain paragraph below if utilizing wood in lieu of steel structural supports.

C. Wood Structural Supports:

1. Lumber: Meet DOC 20 and stamp with grade stamp meeting ALSC grading rules.
2. Certified Lumber: Meet FSC STD-01-001.
3. Dimension Lumber and Timber: 19 percent moisture maximum; Construction or No. 2 grade or better.

Specifier: Retain requirement for preservative treatment for exterior wood structural supports or for interior supports exposed to moisture. Delete if retaining requirement for fire retardant treatment.

4. Preservative Treatment: AWPA C2 or C15, with treatment quality mark. Do not use chemicals containing arsenic or chromium.
 - a. Fasteners: Stainless steel.

Specifier: Retain requirement for fire retardant treatment of wood structural supports in lieu of preservative treatment when required by authorities having jurisdiction.

5. Fire Retardant Treatment: Flame spread index of 25 or less per ASTM E 84 and as required by authorities having jurisdiction, with treatment identification mark.
 - a. Fasteners: Stainless steel or galvanized steel.
 - b. Framing Anchors: Hot-dip, zinc-coated steel sheet ASTM A 653/A 653M, sizes and types selected by artificial rock installation manufacturer to meet allowable design loads published by framing anchor manufacturer, and as indicated on approved shop drawings.
 6. Framing Anchors: [Hot-dip, zinc-coated steel sheet ASTM A 653/A 653M] [Stainless steel A 666 Type 304], sizes and types selected by artificial rock installation manufacturer to meet allowable design loads published by framing anchor manufacturer, and as indicated on approved shop drawings.
- D. Artificial Rock Unit Fasteners: Manufacturer's standard; corrosion-resistant; hot-dip galvanized or plated steel and iron, or stainless steel; permanently capped, and theft resistant.
- E. Anchorages: Anchor bolts, hot-dip galvanized according to ASTM A 153/A 153M.

Specifier: Retain Concrete paragraph below if foundations for artificial rock installations is part of the work of this section.

- F. Concrete for Artificial Rock Installation Foundations: Minimum compressive strength 3000 psi/28 days. Refer to requirements of Division 03 Section "Cast-in-Place Concrete."

2.5 ARTIFICIAL ROCK INSTALLATION FABRICATION

- A. Fabrication, General: Assemble artificial rock installations in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.

Specifier: Retain paragraph below if structural support is required due to size or loading conditions. Consult Createk representative.

- B. Structural Supports: Fabricate structural supports with cross-section profile and dimensions as indicated on approved Shop Drawings.

Specifier: Retain paragraph below if utilizing steel structural supports.

- 1. Fabricate secondary frame members, bracing, and connections from steel materials specified.

Specifier: Retain paragraph below if utilizing wood structural supports.

- 2. Fabricate secondary frame members, bracing, and connections from wood materials specified.
 - a. Comply with American Forest and Paper Association recommended practices for framing.
 - b. Install framing anchors per manufacturer's instructions.
 - c. Field treat cut ends of treated lumber.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Examine areas where artificial rock installations are to be installed, with Installer present. Verify compliance with requirements for installation tolerances and other conditions affecting installation and performance.

Specifier: Retain and edit Foundation Article if required for Project.

3.2 FOUNDATION

- A. Install concrete footings and anchors for artificial rock installations in accordance with approved submittals and requirements of Division 03 Section "Cast-in-Place Concrete."

3.3 ERECTION OF ARTIFICIAL ROCK INSTALLATIONS

- A. General: Comply with manufacturer's written instructions and approved Shop Drawings. Support, anchor, and fasten components securely using anchors and fasteners recommended by manufacturer for application.
- B. Safety Standards: Install artificial rock installations to comply with requirements of ASTM F 1487 and CPSC No. 325.
- C. Erection of Structural Supports: Erect structural supports in accordance with approved submittals. Anchor and fasten using fasteners indicated. Utilize structural components furnished by manufacturer; do not modify components in field without manufacturer approval.

Specifier: Retain paragraph below to coordinate with electrical and plumbing components of artificial rock installations if required for project.

- D. Coordination with Electrical and Plumbing Work: Coordinate with artificial rock installation with installation of related electrical and plumbing components.

3.4 CLEANING

- A. Repair or replace defective work as directed by Architect upon inspection.
- B. Clean installed unit surfaces. Touch up, refinish, or replace damaged components in a manner acceptable to Architect.

END OF SECTION