

Laney Community College Laney Childcare Improvements Phase II

PROJECT MANUAL

July 15, 2020

Issue for Bid

VOLUME I of I

LANEY COLLEGE
CHILDREN'S CENTER
EAST 10TH ST.
OAKLAND, CA, 94607



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May 15, 2020

Laney Childcare Improvements Phase II
Laney Community College
Peralta Community College District Oakland,
CA 94607

024119	Selective Demolition
055800	Stainless Steel Counters
099100	Painting
108113	Bird Control
239900	Mechanical
311300	Selective Tree Trimming
321313	Concrete Paving

PRODUCT LITERATURE AND INSTALLATION GUIDES:

Exit & Egress Lighting
Site Play Yard Borders
Sand
EWF
Alternate 1 (ALT-1)

SECTION 024119 SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Demolition and/or removal of selected portions of building or structure.
 - 2. Demolition and/or removal of selected site elements.
 - 3. Salvage of existing items to be reused or recycled.

- B. Related Sections include the following:
 - 1. Division 01 Section "Summary" for use of premises and Owner-occupancy requirements.
 - 2. Division 01 Section "Temporary Facilities and Controls" for temporary construction and environmental-protection measures for selective demolition operations.
 - 3. Division 01 Section "Cutting and Patching" for cutting and patching procedures.
 - 4. Division 01 Section "Construction Waste Management and Disposal" for disposal of demolished materials.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.

- B. Remove and Salvage: Detach items from existing construction and deliver them to Owner ready for reuse.

- C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.

- D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 MATERIALS OWNERSHIP

- A. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered during selective demolition remain Owner's property. Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Owner.

1.4 SUBMITTALS

- A. Schedule of Selective Demolition Activities: Indicate and provide a list of the the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Means of protection for items to remain and items in path of waste removal from building.
- B. Predemolition Photographs: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by selective demolition operations. Submit before Work begins.
- C. Comply with submittal requirements in Division 01 Section "Construction Waste Management and Disposal."

1.5 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.
- B. Regulatory Requirements: Comply with governing EPA (if applicable) notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Standards: Comply with ANSI A10.6 and NFPA 241.

1.6 PROJECT CONDITIONS

- A. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- B. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- C. Hazardous Materials: It is unknown whether hazardous materials will be encountered in the Work.
 - 1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Owner will remove hazardous materials under a separate contract.
- D. Storage or sale of removed items or materials on-site is not permitted.
- E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1.7 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- B. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

- C. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.
 - 1. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems: Maintain services/systems indicated to remain and protect them against damage during selective demolition operations.
- B. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished or as required to perform repairs, inspections and testing.
 - 1. Arrange to shut off indicated utilities with utility companies.
 - 2. If services/systems are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 3. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.
 - a. Where entire wall is to be removed, existing services/systems may be removed with removal of the wall.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Comply with requirements for access and protection specified in Division 01 Section "Temporary Facilities and Controls."
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area.
 - 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 - 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Division 01 Section "Temporary Facilities and Controls."

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new

construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 5. Maintain adequate ventilation when using cutting torches.
 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 9. Dispose of demolished items and materials promptly. Comply with requirements in Division 01 Section "Construction Waste Management and Disposal."
- B. Reuse of Building Elements: Project has been designed to result in end-of-Project rates for reuse of building elements as follows. Do not demolish building elements beyond what is indicated on Drawings without Architect's approval.
1. Existing Walls, Floors, and Roof: 75 percent.
- C. Removed and Salvaged Items:
1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to Owner's storage area designated by Owner.
 5. Protect items from damage during transport and storage.
- D. Removed and Reinstalled Items:
1. Clean and repair items to functional condition adequate for intended reuse.
Pain
t equipment to match new equipment.
 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.

66 Page Street
Project San Francisco,
California

4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
- E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.
 1. Existing, Painted Signs Indicated to Remain: Protect existing, painted signs from damage with plywood panels or other suitable rigid material, solidly attached to surfaces which will not be visible in final construction.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete: Inspect existing exterior concrete paths for access compliance and mark areas with changes of more than $\frac{1}{4}$ " in vertical height. If areas are not significant, access compliance can be limited to grinding high spots of existing concrete to match adjacent concrete sections along existing pathways.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them.
 1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 4. Comply with requirements specified in Division 01 Section "Construction Waste Management and Disposal."
- B. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.7 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

STAINLESS STEEL PANELS AND COUNTER TOPS SECTION 055800

PART I – GENERAL

1.1 SUMMARY:

A. Section includes:

1. Stainless steel countertop with integral splashes and edges and wall panels.
2. Supplementary parts and components, such as clips, fasteners, supplementary framing, and other miscellaneous accessories required for a complete installation.

1.2 SYSTEM DESCRIPTION:

- A. Design requirements: Field Measure, fabricate, assemble and install stainless steel panels and countertops, including attachment to their supports, to meet or exceed the criteria indicated and specified, to conform to the profiles indicated and to other requirements of the Contract Documents. Coordinate installation with clear space to install, including but not limited to moving of existing fixtures, appliances and other accessories to allow complete installation of the wall panels. Shall comply with dimensions and locations shown on the documents.

1.3 SUBMITTALS:

A. Shop drawings:

1. Submit large scale, dimensioned drawings showing materials, profiles, joints, finishes, method of fabrication, anchorage details and coordination with cabinet fabrication. Label individual components and indicate materials and method of field installation.
2. Indicate layout, methods of support, connection details, integration of plumbing components, and interface and anchorage to adjacent materials. Show position of openings required, with rough-in sizes.

1.4 QUALITY ASSURANCE:

- A. Fabricator's qualifications: Firm and individuals with a minimum of 5 consecutive years experience in the fabrication and installation of specified materials on projects similar in material, design and whose work has resulted in applications with a record of successful in-service performance.

1.5 HANDLING

- A. Handling: Deliver stainless steel fabrications with protective crating and covering.
- B. Storage: Store materials indoors, off the floor in original packaging and protected with breathing type covers.

PART 2 – PRODUCTS

2.1 MATERIALS

A. General:

1. Provide sheet metals selected for their surface flatness, smoothness and freedom from surface blemishes where exposed to view in the finished unit.

2. Exposed surfaces which exhibit pitting, seam marks, roller marks, oil-canning, stains, discolorations, variations in flatness exceeding those permitted by referenced standards for stretcher-leveled metal sheets, or other imperfections are unacceptable.
- B. Stainless Steel: Complying with the following.
1. Bars and shapes ASTM A 276, Type 304.
 2. Sheet, strip, plate, and bar: ASTM A 666, Type 304
 3. Gage(s) for sheets: Except where noted on the drawings, as necessary for the required spans and use intended without visible deflection, oil-canning and other defects, 16 gage min.
- C. Fasteners:
1. Of same basic metal and alloy as fastened metal. Do not use corrosive metals or incompatible materials on metal joints.
 2. Provide concealed fasteners for interconnection of sheet metal fabrications and for their attachment to other construction, unless otherwise accepted on shop drawings.
- D. Welding electrodes and filler metal:
1. Type and alloy of filler metal and electrodes recommended by producer of metal to be welded, complying with applicable AWS specifications, and as required for strength and compatibility in the fabricated items.
 2. Use filler metals and welding procedures which will blend with and match the color of sheet metal being joined and will prevent discoloration at welds.
- E. Miscellaneous materials: As specified and as necessary to complete this work.

2.2 FABRICATION

- A. Comply with AWS D-1.1 "Code for Welding in Building Construction", except as modified by the Drawings and Specifications.
- B. Fabricate countertops to comply with requirements indicated for design, dimensions, materials, joinery and performance.
- C. Coordinate dimensions and attachment methods with those of adjoining construction to produce integrated assemblies with closely fitting, flush joints, and edges and surfaces aligned with one another in relationship indicated.
- D. Increase metal thickness or reinforce metal with concealed stiffeners or backing materials, or both, as required to produce surfaces whose variations in flatness do not exceed those permitted by referenced standards for stretcher-leveled metal sheet and to impart sufficient strength for intended use.
- E. Preassemble countertops in the shop to the greatest extent possible to minimize field splicing and assembly. Disassemble only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.
- F. Form to minimize joints and without exposed cut edges.
 1. Fold back exposed ends of unsupported sheet metal to form a 1/2-inch wide hem on the concealed side, or ease exposed edges with backing to a radius of approximately 1/16-inch.
 2. Produce flat, flush surfaces without cracking and grain separation at bends.

- G. Continuously weld joints and seams, except where other methods of joining are indicated or accepted on shop drawings. Grind, fill and dress welds to produce smooth flush exposed surfaces where welds are invisible after final finishing is completed.
- H. Provide holes of proper sizes and in correct locations required for attachment of work of other trades.
 - 1. Cut, tap, and drill as required, including for attachment of work under other Sections.
 - 2. Finishes free of kinks, twist, burrs and open joints. Damaged or distorted materials will not be allowed.
- I. Install supporting members, fastenings, frames, hangers, bracing, brackets, straps, bolts and angles required to set and connect work to other construction.
- J. Drill holes for bolts and screws; countersink holes for exposed screws. Provide rebates, lugs and brackets as required by details.

2.3 FINISHING

- A. Provide right, directional polish: NAAMM No. 4 finish or No. 6 Hairline/Matt finish.
- B. When polishing is completed, remove embedded foreign matter and leave surfaces chemically clean.

PART III – EXECUTION

3.1 EXAMINATION

- A. Examine adjacent construction and supports.
- B. Verify condition of stainless steel countertops. Do not install stainless steel countertops with scratches, stains and other defects that may be visible in the finished work.
- C. Correct conditions detrimental to the proper and timely completion of this work before proceeding with installation.

3.2 INSTALLATION

- A. Install stainless steel countertops plumb and level, with tight hairline flush joints. Shim as required using concealed shims.
- B. Scribe and fit accurately against adjacent surfaces for a close fit.
- C. Attach top securely to steel supports with concealed screws as required for a rigid and secure installation.
- D. Seal interface of countertops with contiguous surfaces with sealant in compliance with the requirements of Section 07920. Tool sealant uniformly to form a cove and shed water.

3.3 CLEANING

- A. After sealant has cured, clean stainless steel countertop with manufacturer's recommended cleaning material in compliance with manufacturer's cleaning instructions.

3.4 PROTECTION

- A. Protect stainless steel countertops in place during the construction period to prevent damage and stains. Remove protection when no longer needed.
- B. Restore damaged areas to match adjacent areas as recommended by the stainless steel countertop manufacturer.
- C. Remove and replace materials that are damaged, scratched, have been stained, that do not match adjacent countertops or cannot be satisfactorily cleaned or repaired, as determined and directed by the Customer.
- D. Seal interface of countertops with contiguous surfaces with sealant in compliance with the requirements of Section 07920. Tool sealant uniformly to form a cove and shed water.

END OF SECTION

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May 15, 2020

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One Gate for Laney College
DOOR HARDWARE
Oakland, California SECTION 08 71 00

Manufacturer List

Code Name
BE Best Access Systems
LOC Locinox
PR Precision
TR Trimco

Option List

Code Description
LD Less Dogging

Finish List

<u>Code</u>	<u>Description</u>
626	Satin Chromium Plated
630	Satin Stainless Steel
626W	Weatherized Satin Chrome

Hardware Sets

SET (existing) Entry Gate w/Exit Device
Doors: GATE 1

1 Gate Hinge/Closer Mammoth 180	M180SL (add to existing gate)		LOC
1 Exit Device	2103 X 1703C LD	626W	PR
1 Rim Cylinder	as Required for Established System	626	BE
1 Door Stop	1209HO		

All-In-One Bearing Hinge / Gate Closer For All Gates

The **Locinox Mammoth 180° Self-Closing Hinge Set** is a hydraulic swing gate closer and bearing hinge in one. An elegantly designed self-closing hinge that opens smoothly and closes consistently gates up to 330 lbs. and this regardless of the outside temperatures (patented system). Force, closing speed and final snap are all individually adjustable according to your needs. Probably the best self-closing hinge on the market! Manufactured with stainless steel and other rustproof components for outdoor use. Easy to install with no welding required, no other hinges to buy or mounting brackets needed. Fastens with quick-fix fasteners with 5/8" holes. Never worry about whether you closed the gate again!

Features

- Self-closing hinge with patented hydraulic
 - damping
 - Includes Mammoth180 closer and Dino
 - bearing hinge for bottom
 - Adjustable closing speed & closing
 - pressure

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- Easy mounting with Quick-Fix
- Adjustable free run for perfect closing
- (final snap)
- For left and right opening gates
- Opening angle: 180°
- Powder Coated aluminum casing
- Double stainless steel bearing
- Horizontal and vertical adjustment (3/4")
- For gates up to 330 lbs. (max. 48" wide)
- Easy to open, conforms to all regulations
- regarding max allowed forces to open
- gates, ADA compliant, 4 lb. opening force
- Ideal in combination with magnetic and
- mechanical locks
- Bottom Dino hinge included
- Especially designed for exterior use: rain
- & frost-proof
- Self-closing unit complies with pool gate
- legislation restrictions
- Aesthetic design
- Burglar proof and anti-theft
- Closing speed unaffected by temperature
- changes
- Measurements: Mammoth180 - 15-3/4"
- high x 2" round, Dino - 4-11/32" high x 2"
- round

PAINTING - SECTION 099100

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes surface preparation and field painting of exposed exterior and interior items and surfaces.
- B. Related Sections:
 - 1. See "Interior Finish Schedule" for information not specified in this Section.

1.1.1 Oil stain finishing of all existing wood benches

1.1.2 Painting of metal hardware and fabrications

1.2 SYSTEM DESCRIPTION

- A. General: Paint exterior and interior surfaces as indicated on the Drawings and designated by the Architect.
- B. Surfaces Not to be Painted:
 - 1. Cast-in-place concrete.
 - 2. Portland cement plaster surfaces with integrally-colored finish coats.
 - 3. Factory-finished items specified in various Sections.
 - 4. Prefinished wall, ceiling, and floor coverings.
 - 5. Painting specified elsewhere and included in respective Sections, including but not necessarily limited to, shop priming.
 - 6. Code-Required Labels: Keep equipment identification and fire rating labels free of paint.
 - 7. Surfaces concealed in walls and above ceilings except as specifically indicated otherwise.
 - 8. Ducts, piping, conduit, and equipment concealed in walls and ceilings, unless specifically indicated otherwise.

1.3 SUBMITTALS

- A. Product Data: For each product indicated.
- B. Samples: For each type of paint system and in each color and gloss of topcoat indicated.
 - 1. Submit Samples on rigid backing, 8-1/2 inches by 11 inches.
 - 2. Step coats on Samples to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area
- C. Sustainable Design Submittals:
 - 1. Product Data: Manufacturers' product data for paints, including printed statement of VOC content.

1.4 QUALITY ASSURANCE

- A. Applicators Qualifications: Engage an experienced applicator who has completed painting system applications similar in material and extent.
- B. Single Source Responsibility: Provide primers and other undercoat paint produced by same manufacturer as finish coats. Use thinners approved by paint manufacturer, and use within recommended limits.
- C. Coordination of Work: Review other Sections in which prime paints are to be provided to ensure compatibility of coatings system for various substrates. Upon request, furnish information or characteristics of finish materials to be used.
- D. Requirements of Regulatory Agencies: Comply with applicable rules and regulations of governing agencies for air quality control.
 - 1. Comply with current applicable regulations of the local air quality district, California Air Resources Board (CARB) and the Environmental Protection Agency (EPA).
 - 2. Regulatory changes may affect the formulation, availability, or use of specified coatings. Confirm availability of coatings to be used prior to start of painting.
 - 3. Paint shall comply with Green Seal GS-11 GC-03 and SCAQMD Rule 1113.

1.5 PROJECT CONDITIONS

- A. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F. Maintain storage containers in a clean condition, free of foreign materials and residue.
- B. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F.
- C. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

1.6 EXTRA MATERIALS

- A. Furnish extra paint materials from the same production run as the materials applied and in the quantities described below. Package with protective covering for storage and identify with labels describing contents. Deliver extra materials to Owner.
 - 1. Quantity: 1 gal. of each material and color applied.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Owner's Standards Program: Where applicable, provide products under the terms and conditions of the Owner's standards program; no substitutions.

- B. Manufacturers: Products of the following manufacturers are listed in other Part 2 articles and use the abbreviated names shown in parentheses:
 - 1. Sherwin-Williams Co., The (Sherwin-Williams) or approved equal.
- C. Subject to compliance with requirements, provide the named products or comparable products by an accepted equal manufacturer.

2.2 PAINT MATERIALS, GENERAL

- A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. Material Quality: Provide manufacturer's top-of-the-line-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
- C. Colors:
 - 1. Interior Colors: As specified "Interior Finish Schedule" and indicated on the Drawings

2.3 PREPARATORY COATS

- A. Crack Fillers: Factory-formulated acrylic emulsion crack fillers compatible with substrate and finish-coat materials indicated.
- B. Typical Interior Primers: Interior latex-based primers of finish coat manufacturer and recommended in writing by manufacturer for use with finish coat and on substrate indicated.
 - 1. Gypsum Board Substrates: Zero VOC primer/sealer.
 - a. Sherwin-Williams; B28 ProMar 200 Zero or approved equal.
 - 2. Ferrous-Metal, Zinc-Coated Metal, and Aluminum Substrates: Rust-inhibitive acrylic metal primer.

2.4 INTERIOR FINISH COATS (To Match Existing)

- A. Interior Flat Zero VOC/Low Odor Acrylic Paint:
- B. Interior Low-Sheen Zero VOC/Low Odor Acrylic Enamel:
- C. Interior Semigloss Zero VOC/Low Odor Acrylic Enamel:

2.5 EXTERIOR FINISH COATS (To Match Existing)

- A. Exterior Semi-Gloss VOC/Low Odor Acrylic Paint:

PART 3 - EXECUTION

3.1 APPLICATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for paint application.
- B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
- C. Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
- D. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
 - 1. Provide barrier coats over incompatible primers or remove and re-prime.
 - 2. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with SSPC's recommendations.
 - a. Touch up bare areas and shop-applied prime coats that have been damaged. Wire- brush, clean with solvents recommended by paint manufacturer, and touch up with same primer as the shop coat.
- E. Material Preparation:
 - 1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
 - 2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
- F. Exposed Surfaces: Include areas visible when permanent or built-in fixtures, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.
 - 1. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 2. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
- G. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and

before subsequent surface deterioration.

1. Omit primer over metal surfaces that have been shop primed and touchup painted.
2. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance.

- H. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
- I. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate. Provide total dry film thickness of the entire system as recommended by manufacturer.
- J. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.
- K. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

3.2 CLEANING AND PROTECTING

- A. At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.
- B. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect
- C. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.
 1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.3 WASTE MANAGEMENT

- A. Set aside extra paint for future color matches, or reuse by Owner. Where paint recycling is available, collect all waste paint by type and provide for delivery to recycling or collection facility.
- B. Close and seal tightly all partly used paint and finish containers and store protected in well-ventilated fire-safe area at moderate temperature.
- C. Place empty containers of solvent based paints in areas designated for hazardous materials.

- D. Do not dispose of paints or solvents by pouring on the ground. Place in designated containers for proper disposal.

3.4 INTERIOR PAINT SCHEDULE

- A. Gypsum Board:
 - 1. General (to match existing):
 - a. Paint Sheens: As indicated on the Drawings.
 - 2. Walls and Ceilings to receive Low-Luster (Eggshell) Finish:
 - a. General: Acrylic finish, two finish coats over a primer.
 - b. Primer: Interior zero VOC/low odor primer as specified for substrate indicated.
 - c. Finish Coats: Interior low-luster (eggshell) zero VOC/low odor acrylic enamel.
 - 3. Walls and Ceilings to receive Semi-Gloss Finish:
 - a. General: Acrylic finish, two finish coats over a primer.
 - b. Primer: Interior zero VOC/low odor primer as specified for substrate indicated.
 - c. Finish Coats: Interior semigloss zero VOC/low odor acrylic enamel.
- B. Metal Doors and Frames, and Other Miscellaneous Metal:
 - 1. Ferrous Metal:
 - a. Acrylic Finish: Two finish coats over a primer.
 - 1) Primer: Interior primer as specified for substrate indicated (not required on shop-primed items).
 - 2) Finish Coats: Interior semigloss zero VOC/low odor acrylic enamel.
 - 2. Zinc-Coated Metal:
 - a. Acrylic Finish: Two finish coats over a primer.
 - 1) Primer: Interior primer as specified for substrate indicated (not required on shop-primed items).
 - 2) Finish Coats: Interior semigloss zero VOC/low odor acrylic enamel.
- C. Wood Stains/Sealers: – Stain Finish – Water-Based Semi-Transparent
 - a. Flat – Premium, 100% Acrylic
 - 1) Two Coats: Semi-Transparent Waterproofing Stain & Sealer (Include Tint Base to match existing wood)

END OF SECTION 099100

PART 1 - GENERAL

1.1 - SYSTEM DESCRIPTION:

- A.** Nixalite Premium All Stainless Steel Bird Barrier Spike Models: Model S, W & H models depending on application (full-width, half-width or wall) or approved equal in conformance with substitutions.
- B.** Nixalite Bird Spike Mounting Hardware: Nixalite designed, stainless steel mounting clips combined with mechanical fasteners to hold the Nixalite Premium Bird Spikes to architectural surfaces or approved equal in conformance substitutions. .

1.2 - QUALITY ASSURANCE

- A.** Installer to obtain, review and understand Nixalite of America Inc.'s planning guides, estimating worksheets and installation instructions. Installer must be completely familiar with the proper installation procedures for the Nixalite Premium All Stainless Steel Bird Spike model or models specified for installation.
- B.** Installer must be completely familiar with the specified mounting hardware and mounting hardware installation procedures.

1.3 - SUBMITTALS

- A.** Manufacturers literature including: Nixalite Planning Guide, completed Nixalite Estimate Worksheet(s) and installation instructions for the specified Premium Nixalite Bird Spike Model and specified mounting hardware.

1.4 – STORAGE & HANDLING

- A.** Provide storage and/or protection to keep Bird Barrier Spike shipping boxes dry, clean and undamaged. Do not stack or place other packaging or objects on the Premium Nixalite Bird Barrier Spike shipping boxes.

PART 2 - PRODUCTS

2.1 – ACCEPTABLE MANUFACTURER (or approved equal)

- A.** Nixalite of America Inc
1025 16th Avenue, PO Box 727, Dept. NI, East Moline, Illinois 61244; U.S.A.
P: 800.624.1189 or 309.755.8771 - F: 800.624.1196 or 309.755.0077
E: birdcontrol@nixalite.com or planning@nixalite.com
www.nixalite.com
- B.** ABC Advanced Bird Control – A division of Nixalite of America Inc.
PO Box 727, Dept. NI, East Moline, Illinois 61244, U.S.A.
P: 888.212.8682 or 309.755.4708 - F: 309.755.1865
E: info@abcbirdcontrol.com
www.abcbirdcontrol.com

2.2 – NIXALITE PREMIUM BIRD BARRIER STRIPS

- A.** ALL Premium Nixalite Models are all stainless steel wire and base strip spikes that are made in the USA from materials produced in the USA.
Wires: Stainless steel, 0.041" (1 mm) diameter, full-hard spring temper.
Base Strip: Stainless steel, 0.25" wide x 0.02" thick (6.3 mm x 0.5 mm), full anneal for flexibility, easy strip cutting and surface shape memory.
- B.** Nixalite Model S: Full row spike, 4" high (10.2 cm), 4" wide (10.2 cm) NO LESS THAN 120 wire points per foot. Full 180-degree wire coverage. For all bird species on all types of surfaces. Use in conjunction with Premium Nixalite Model W for climbing animal barrier and mud-nest building bird control applications.
- C.** Nixalite Model H: Half row spike. 4" high (10.2 cm), 2" wide (5.1 cm), NO LESS THAN 60 wire points per foot, 90 degree wire coverage. For flat surfaces less than 2" in depth (5.1 cm) or in conjunction with Premium Nixalite Model S on specific surface widths to achieve proper surface protection.
- D.** Nixalite Model W: Wall mount spike. 5-1/2" high (14.0 cm), 3" wide (7.6 cm), NO LESS THAN 120 wires per foot, 180-degree wire coverage. Designed for vertical surfaces only. Use above surfaces less than 2" in depth (5.1 cm) or over other Nixalite Models when specified. Use in conjunction with Premium Nixalite Model S for climbing animal barrier and mud-nest building bird control applications.
- E.** Finish: Natural stainless steel finish or manufacturers ColorCoat finish.
- F.** ColorCoat: standard colors are black, white, gray, tan, brown and bronze. Choose standard color that best matches color of existing conditions.

2.3 – NIXALITE BIRD SPIKE MOUNTING HARDWARE

- A.** To be made of stainless steel or non-corrosive materials. Standard mounting hardware is supplied with Barrier Spike Models in set quantities. Mounting Hardware must allow for bird spike strip installation, removal and reinstallation without damaging the installation surface, the spike strips or the mounting system.
- B.** Use the Bird Spike Mounting Hardware that best suits the installation surface. All hardware is made of either stainless steel or non-corrosive materials.

<u>Installation Surface</u>	<u>Nixalite Bird Spike Mounting Hardware</u>
Masonry, stone, concrete;	Mounting clip, sheet metal screw, masonry anchor
Wood, plywood, shingles;	Mounting clip, sheet metal screw, washer
Sheet metal, plastic, PVC;	Mounting clip, sheet metal screw, washer
Steel, cast iron, brass, bronze;	Mounting clip, drive screw, washer
Pipes, cables, conduit, grates;	Wire tie, wire tying tool, adhesive

- C.** Apply adhesive or sealant in all holes that penetrate the installation surface. After mounting hardware is installed, apply additional adhesive or sealant over the heads of the sheet metal screws and/or the drive screws. Do not get adhesive or sealant in the hook end of the mounting clips.

PART 3 - EXECUTION

3.1 - INSPECTION

- A. Visually inspect all installation surfaces. Make sure all surfaces are clean, dry and free from debris or other conditions that could impede the workflow of this section. All surfaces must be sanitized and deodorized before Bird Spike installation.
- B. Notify architect of detrimental conditions. Do not proceed until these conditions have been corrected.

3.2 - PREPARATION

- A. Field Measurements: Verify the dimensions for each surface specified for Premium Nixalite Bird Spike installation. Use manufacturers Planning Guides and Estimate Worksheets to verify that sufficient quantities of bird spike strips will be installed on EACH surface specified for bird control.
- B. Make sure all installation surface finishing requirements have been accomplished before installing Bird Spike Models. They are to be the last items installed on each specified surface.
- C. Remove or relocate all plants, foliage or foreign objects that overhang the installation surfaces. Note all conditions that could adversely affect the installation and performance of the Bird Spike installation.

3.3 – SURFACE CLEANING

- A. All surfaces to be clean, dry and free of obstructions before the Premium Nixalite Bird Spikes are installed.
- B. If Bird Waste Is Present:
Treat, neutralize and safely remove all bird waste from installation surfaces. Installer must follow all municipal, state and federal regulations regarding the proper removal and disposal of bird droppings and waste materials such as nests and dead birds.
- C. Use Nixalite's surface cleaning products to neutralize any bird droppings, nests and related waste materials that may be present. Allow all surfaces to air dry completely, and then reapply to sanitize and deodorize the surface before proceeding. Strictly follow treatment instructions provided with Nixalite's surface cleaning products.
- D. Use Nixalite anti-microbial and anti-bacterial personal protection products to help prevent disease transmittal when working around surfaces contaminated with bird droppings.

3.4 - INSTALLATION

- A. Make sure the installation surfaces are clean, dry and free of any debris or obstructions.

- B. Install specified Bird Spike Models in strict accordance with manufacturer's spike strip spacing and installation guidelines. Protect all surfaces where pest birds can land, roost and nest.
- C. Install bird spike strips so they will protect the entire surface, not just the outside edges. No gaps are allowed in the bird spike strip coverage. Cut the bird spike strips where necessary to fit the surface properly.
- D. Wires of Bird Spike Models must extend over outside edges of each surface by at least 1/4" (0.6cm). The bird spike base strip must extend over the ends of each surface by at least 1/2" (1.2cm).
- E. Fasten Bird Spike Models to the surface with the mounting hardware recommended by the manufacturer. Follow the hardware spacing guidelines and installation procedures supplied by manufacturer.
- F. Model S; A full row spike strip model that repels all bird species on all types of surfaces. Use in conjunction with Premium Nixalite Model W for climbing animal barrier and mud-nest building bird control applications.
- G. Model H; A half row spike strip used on flat horizontal surfaces less than 2" in depth (5.1 cm). Use in conjunction with Premium Nixalite Model S on specific surface widths to achieve proper coverage and protection.
- H. Model W; A wall-mount spike strip used on vertical surfaces only. Do not install horizontally (down flat). Install above surfaces less than 2" in depth (5.1 cm) or over other Nixalite Models when specified by manufacturer. Use in conjunction with Premium Nixalite Model S for climbing animal barrier and mud-nest building bird control applications.

End of Section

SECTION 23 99 00 - AIR BALANCING

PART 1 - GENERAL

1.01 Description of Work:

- A. Testing, adjusting, and balancing (TAB) of the HVAC systems and related ancillary equipment will be performed by a technically qualified TAB Firm.
- B. TAB Firm shall be capable of performing the TAB services as specified in accordance with the Contract Documents, including the preparation and submittal of a detailed report of the actual TAB Work performed.
- C. TAB Firm shall check, adjust, and balance components of the air conditioning system which will result in optimal noise, temperature, and airflow conditions in the conditioned spaces of the building while the system equipment is operating economically and efficiently. This is intended to be accomplished after the system components are installed and operating as specified in the Contract Documents. It is the responsibility of the Contractor to place the equipment into service.
- D. Field Inspection:
 - 1. TAB Firm shall act as a liaison between the Owner, Architect and Contractor. TAB Firm shall perform the following reviews (observations) and tests:
 - a. Verify existing rooftop AC units and exhaust fans in the field. Document any discrepancy from the record drawings and report to the owner and the architect.
 - 2. During the balancing process, as the TAB Firm discovers abnormalities and malfunctions of equipment or components, the TAB Firm shall advise the Contractor in writing so that the condition can be corrected by the Contractor prior to finishing the TAB scope of Work. Data from malfunctioning equipment shall not be recorded in the final TAB report.

1.03 Quality Assurance:

A. Codes and Standards:

- 1. The latest published specifications, standards, tests or recommended methods of trade, industry, or governmental organizations apply to work of this Section where cited by abbreviations (AABC) Associated Air Balance Council, National Standards for Total System Balance, (NEBB) National Environmental Balancing Board.

1.04 Submittals:

A. Evidence of Qualification:

1. Submit the name of the test and balance agency and evidence of qualification within 30 days after award of the contract. The test and balance agency shall be done by a separate independent company other than the mechanical contractor.
2. The test and balance agency shall submit the following information for review:
 - a. The name and registration number or license of the Test and Balance Engineer.
 - b. Detailed procedures.
 - c. Report forms.
 - d. AABC Performance or other approved warranty.

B. Air Balance Report:

1. Submit three (3) typewritten copies of the complete air balance report with all pertinent data. List specified and tested data

PART 2 - PRODUCTS

2.01 Materials:

A. General:

1. The test and balance agency shall supply all instrumentation, tools, and equipment necessary for the total system balance.

PART 3 - EXECUTION

3.01 AIR BALANCE

- A. The TAB Firm shall perform air balance for all air systems and record the results. The outside, supply, exhaust and return air volume for each air handling unit, supply fan and exhaust fan and the supply, exhaust or return air volume for each distribution device shall be adjusted to within +/- 10 percent of the value shown on the Drawings. Air handling unit and fan volumes shall be adjusted by changing fan speed and adjusting volume dampers associated with the unit. Air distribution devices shall be balanced with air patterns as specified. Duct volume dampers shall be adjusted to provide air volume to branch ducts where such dampers are shown.
- B. The general scope of balancing by the TAB Firm shall include, but is not limited to, the following:
 1. Filters: Check air filters and filter media and balance only systems with essentially clean filters and filter media. The Contractor shall install new filters and filter media prior to the final air balance.
 2. Blower Speed: Measure RPM at each fan or blower to design requirements. Where a speed adjustment is required, the Contractor shall make any required changes.

3. Ampere Readings: Measure and record full load amperes for motors.
4. Static Pressure: Static pressure gains or losses shall be measured across each supply fan, cooling coil, heating coil, return air fan, air handling unit filter and exhaust fan. These readings shall be measured and recorded for this report at the furthest air device or terminal unit from the air handler supplying that device. Static pressure readings shall also be provided for systems, which do not perform as designed.
5. Equipment Air Flow: Adjust and record exhaust, return, outside and supply air CFM(s) and temperatures, as applicable, at each fan, blower and coil.
6. Coil Temperatures: Set controls for full cooling and for full heating loads. Read and record entering and leaving dry bulb and wet bulb temperatures (cooling only) at each cooling coil, heating coil and reheat coil at each VAV terminal unit. At the time of reading record water flow and entering and leaving water temperatures (In variable flow systems adjust the water flow to design for all the above readings).
7. Zone Air Flow: Adjust each HVAC VAV terminal unit and VAV air handling unit for design CFM.
8. Outlet Air Flow: Adjust each exhaust inlet and supply diffuser, register and grille to within + 10 percent of design air CFM. Include all terminal points of air supply and all points of exhaust. Note: For Labs and rooms that are negative exhaust air flow shall be set to design + 10 percent and supply to design - 5 percent. Positive areas will have opposite tolerances.
9. Pitot Tube Traverses: For use in future troubleshooting by Owner, all exhaust ducts, main supply ducts and return ducts shall have air velocity and volume measured and recorded by the traverse method. Locations of these traverse test stations shall be described on the sheet containing the data.

3.02 SOUND VIBRATION AND ALIGNMENT

- A. Sound: Read and record sound levels at up to fifteen (15) locations per floor in the building as designated by the Architect/Engineer. All measurements shall be made using an Octave Band Analyzer. All tests shall be conducted when the building is quiet and in the presence of the Architect/Engineer, at the Architect/Engineer's option.

3.03 Procedure:

A. General:

1. The total system balance shall be performed in accordance with the AABC standards.

3.04 Finishing:

A. General:

1. Submit (3) three sets of type format completed test and balance reports to the Owner's representative for review. Make final adjustments to the system as required by the owner's representative.

END OF SECTION 239900

SECTION 31 13 00 SELECTIVE TREE AND SHRUB REMOVAL AND TRIMMING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Provide all material, labor, equipment, and service necessary for tree removal and pruning as shown on the Drawings and as specified herein. The work of this Section includes but is not limited to:
 - 1. Pruning of existing trees as indicted in the documents.
 - 2. Coordinating and scheduling of pruning inspections

1.02 RELATED SECTIONS

- A. Section 015639 Protection of Trees

1.03 REFERENCE STANDARDS All work shall comply with:

- A. American National Standards Institute (ANSI). 2006. Safety Requirements for arboricultural Operations (Z133). New York NY.
- B. American National Standards Institute (ANSI). 2008. American National Standard for tree care operations – Tree Shrub and Other Woody Plant Maintenance
- C. City and County of San Francisco, Urban Forest Council. 2006. Pruning Standards.
- D. Conforms to latest revision of standards of National Arborist Association, ANSI A300
- E. Conforms to latest revision of standards of National Arborist Association ANSI Z-133

1.04 SUBMITTALS

- A. Qualification Data: For firms and persons to demonstrate their capabilities and experience. Include lists of four completed San Francisco Bay region projects with project names and addresses and names and addresses of architects and owners. Provide a copy of Contractor's specialty class C61-D49 Contractor's License.
- B. Pruning Method: The Contractor shall submit a written description for review and approval of proposed pruning method of trees.
- C. Temporary Fencing: See Specification 01-50-00 for Limit of Work fencing. For temporary fencing at plant establishment area submit Wildlife Exclusion Fencing.

1.05 QUALITY ASSURANCE A. Tree Service Qualifications: Contractor performing tree work shall possess a valid specialty class C61-D49 Contractor's License. An experienced and professional tree service firm that has successfully completed tree removal and pruning work similar to that required for this Project. B. Preconstruction Meeting: Conduct meeting at Project site to comply with requirements in Section 01200 "Project Meetings." 1. Prior to start of construction the Contractor to conduct a meeting with the Resident City Representative and RPD Urban Forestry Supervisor to review tree work. Notify City Representative at least ten-working days before convening meeting.

PART 2 - PRODUCTS 2.01 MATERIALS

- A. Temporary Fencing: See Specification 01-50-00 for Limit of Work fencing.
- B. Water: Clean, potable and free of deleterious matter. Source, in accordance with regulations and codes governing water conservation measures for the County of Alameda.

PART 3 - EXECUTION 3.01 PREPARATION

- A. Temporary Fencing: See Owner's Section Temporary Construction Procedures.

3.03 PRUNING OBSERVATIONS

- A. Progress Observations: The Contractor shall request the following observations during pruning operations:
 - 1. Observation after 30% of trees have been pruned.
 - 2. Inspection at completion of pruning.
 - 3. Inspection as part of Landscape Maintenance.

3.03 TREE PRUNING

- A. Prune existing trees that are indicated on drawings, and confirmed by pre-construction walk through. Remove trimmings and debris from under canopy.
- B. Trees shall be pruned for safety considerations, such as crown cleaning, limb end weight reduction, and as determined by the pre-construction walk through.
- C. Prune trees to compensate for limb or root loss caused by damage due to construction work. Provide subsequent maintenance during Contract period as directed City Representative.
- D. Cut branches with sharp and clean pruning instruments; do not break or chop.
- E. All cuts shall be made as close as possible to the trunk or parent limb, without cutting into the branch collar or leaving a protruding stub. Bark at the edge of all pruning cuts should remain firmly attached.
- F. All branches too large to support with one hand shall be pre-cut to avoid splitting or tearing of the bark. Where necessary, ropes or other equipment should be used to lower large branches or stubs to the ground.
- G. Treatment of cuts and wounds with wound dressing or paints has not been shown to be effective in preventing or reducing decay and is not generally recommended for this reason. Wound dressing over infected wood may stimulate the decay process. If wounds are painted for cosmetic or other reasons, then material non-toxic to the cambium layer of meristematic tissue must be used. Care must be taken to apply a thin coating of material only to exposed wood. Old injuries are to be inspected. Those not closing properly and where the callus growth is not already completely established should be bark traced if the bark appears loose or damaged. Such tracing shall not penetrate the xylem (sapwood), and margins shall be kept rounded.
- H. Equipment that will damage the bark and cambium layer should not be used on or in the trees. For example, the use of climbing spurs (hooks or irons) is not an acceptable work practice for pruning operations on live trees. Sharp tools shall be used so that clean cuts will be made at all times.

CA Architects
May 15, 2020

Laney Childcare Improvements Phase II
Laney Community College
Peralta Community College District Oakland,
CA 94607

- I. All cut limbs shall be removed from the crown upon completion of the pruning. Clean-up of branches, logs, or any other debris resulting from any tree pruning shall be promptly and properly accomplished.
- J. The work area shall be kept safe at all times until the clean-up operation is completed. Under no condition shall the accumulation of brush, branches, logs, or other debris be allowed upon a public property in such a manner as to result in a public hazard. Trees impeding vehicle or pedestrian traffic should be raised up a least 13 feet over streets and 8 feet over sidewalks. Trees obstructing control devices (stop signs, yield signs, and traffic lights) should be trimmed to allow for adequate visibility.

END OF SECTION

EXIT & EGRESS LIGHTING



FEATURES & SPECIFICATIONS

INTENDED USE — Suitable for applications requiring both exit sign and unit equipment. Attractive, less than 10 inches tall, streamlined design is great for above-the-door applications and other tight fits. High-output version with remote lamps are ideal for outdoor emergency egress lighting.

CONSTRUCTION — Engineering-grade thermoplastic housing is impact-resistant, scratch-resistant and corrosion-proof. UL94V-0 flame rating. UV-stable white resin resists discoloration from natural and man-made light sources.

Rugged unibody housing snaps together with no additional fasteners. Faceplate and back cover are interchangeable on housing. Positive snap-fit tabs hold faceplate securely, yet are easily removable for lamp compartment access. Universal, directional chevron inserts are easily removed and reinserted.

Uniform graphics illumination without shadows or hot spots. Letters 6" high with 3/4" stroke., with 100 ft. viewing distance rating, based upon UL924 standards.

U.S. Patent No. D484,272; 5,526,251; 5,611,163; 5,797,673; 5,954,423; 6,142,648 and 6,848,798. Canada Patent No. 80,141, 2,180,495.

OPTICS — The typical life of the exit LED lamp is 10 years, based on continuous operation. Low energy consumption — **only 3.3 watts.**

Two high-performance LED lamp heads rated at 5.4 watts each, delivering a total of 1,045 lumens with the LP06VS lamp. Two white LEDs per head provides a redundant light source that ensures emergency lighting performance.

Linear Pattern (LP) is designed for uniform emergency lighting applications.

Single fixture illuminates a 68' long 6' wide path of egress at a 12' mounting height.

ELECTRICAL — Dual voltage input capability (120/277V, 60hz).

Custom microchip charger, developed by Lithonia Lighting Emergency Systems, provides increased reliability and maximizes battery life. AC/LVD reset allows battery connection before AC power is applied and prevents battery damage from deep discharge.

Two-rate regulated charger minimizes energy consumption and provides low operating costs. Filtered charger output minimizes charge voltage ripple and extends battery life. Thermal protection senses circuitry temperature and maintenance.

Battery: Sealed, maintenance free lead-acid (SLA) battery standard delivers 90 minutes capacity to emergency lamps. The HO RO option can power up to 6 volt, 24 watt remote load. Optional high-output battery (HO) to power up to 6-volt, 12-watt remote load.

INSTALLATION — Top, end or back mounting. Housing snaps to canopy with four positive-locking tabs. Cam locking pin secures housing to canopy.

Easily removed mounting knockouts. Conduit entry knockout for 1/2" flexible conduit. J-box pattern on back panel.

LISTING — UL listed. Damp location 60°F to 90°F (15°-32°C) standard. Meets UL 924, NFPA 101 (current Life Safety Code), NEC and OSHA illumination standards.

WARRANTY — 5-year limited warranty including LED lamps (Battery prorated 3-year limited warranty). Complete warranty terms located at:

www.acuitybrands.com/support/customer-support/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25°C.

Specifications subject to change without notice.

† Exit Signs Certified in the CA Title 20 Appliance Efficiency Database or equivalent.

Catalog Number
Notes
Type



Thermoplastic Exit and Combo with High-output Remote Capacity



LHQM



ORDERING INFORMATION For shortest lead times, configure product using **standard options (shown in bold)**. **Example:** LHQM S W 3 R LP06VS HO

LHQM	Family	Lamp type	Face type	Housing color	Number of faces	Letter color	Operation
LHQM	Stencil face, single face plate with extra face plate	(blank) LED exit, less lamphead, high-output lead acid battery ¹ LP06VS 5.4W linear pattern, LED ²	S Stencil	W White	3 Single face with extra faceplate and color panel	R Red G Green	HO RO High-output lead-acid battery, less lamp heads ³ HO High output lead-acid battery ⁴

<i>Accessories: Order as separate item.</i>	
ELA WG3	Wireguard (back mount only) ⁵
ELA W US12	12" pendant-mount kit with white canopy ⁶
ELA W NX H0606	NEMA 4X, sealed-beam remote fixture (6V, 6W halogen) ⁷

Notes

1. Only available with HO RO option.
2. Must specify HO when ordering LP06VS lamp type. Not available with HO RO.
3. Not available with LP06VS lamp type.
4. Only available with LP06VS lamp type.
5. See spec sheet [ELA-WG](#).
6. See spec sheet [ELA-Stemkits](#). To order 24" or 36" length, replace "12".
7. Only available with HO RO option. See spec sheet [ELA-NX](#).

LHQM Quantum[®] Thermoplastic Exit and Combo with High-output Remote Capacity

SPECIFICATIONS

ELECTRICAL				
Primary Circuit				
	Typical LED life ¹	Supply voltage	Max. amps	Max. watts
Red & Green LED	10	120	.23	3.3
	years	277	.23	3.3

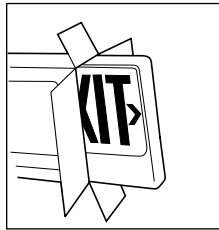
BATTERY (sealed)					
	Voltage	Typical Shelf life ²	Typical life ²	Maintenance ³	Temperature range ⁴
Lead-acid (SLA)*	6	12 months	3 - 5 years	none	60°-90°F (15°-32°C)

* with lead calcium alloy grids

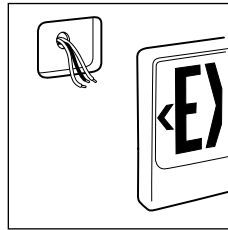
Notes:

- 1 Based on continuous operation.
- 2 At 77°F (25°C).
- 3 All life safety equipment, including emergency lighting for path of egress must be maintained, serviced, and tested in accordance with all National Fire Protection Association (NFPA) and local codes. Failure to perform the required maintenance, service, or testing could jeopardize the safety of occupants and will void all warranties.
- 4 Optimum ambient temperature range where unit will provide capacity for 90 minutes. Higher and lower temperatures affect life and capacity.

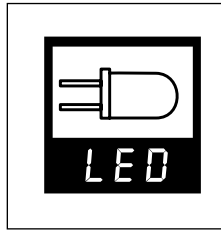
KEY FEATURES



Fully assembled at factory.

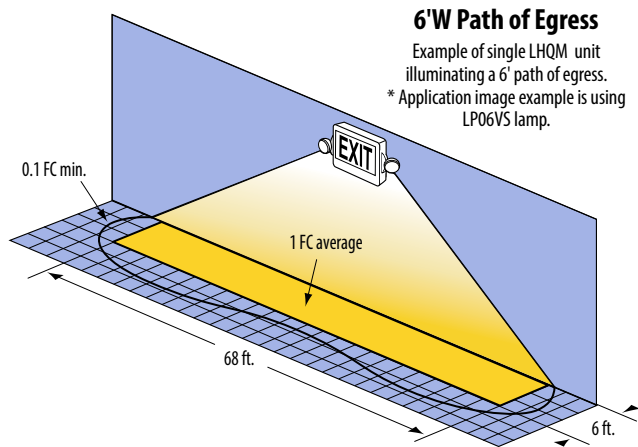


Install only one fixture instead of two.



The typical life of the LED lamp is 10 years.

FIXTURE PERFORMANCE

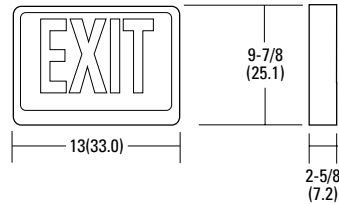


MOUNTING

All dimensions are inches (centimeters).

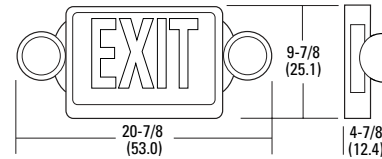
HO R0 - weight: 9.13 lbs. (4.14kgs)

LP06VS HO - weight: 9.35 lbs. (4.24kgs)



Specifications (exit only)

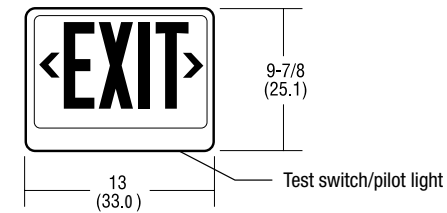
Length: 13 (33.0)
 Depth: 2-5/8 (7.2)
 Height: 9-7/8 (25.1)
 Weight: 7.36 (3.3 kg)



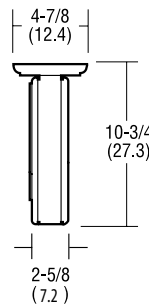
Specifications (combo)

Length: 20-7/8 (53.0)
 Depth: 2-1/2 (6.3)
 Height: 9-7/8 (25.1)
 Weight: 9.35 (4.2kg)

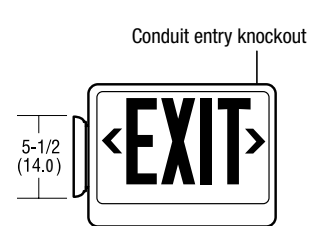
BACK MOUNT



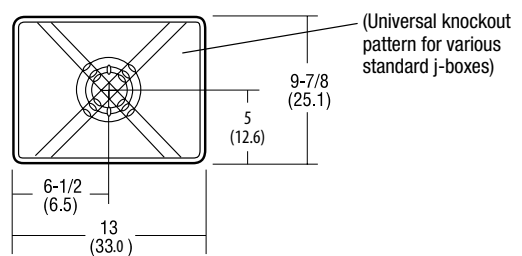
TOP MOUNT



END MOUNT



BACKPLATE



MOUNTING HEIGHT (LP06VS lamp type)

Single Unit Spacing		7.5'	10'	12'	16'	20'
LP06VS*	1FC Avg	36'	48'	68'	54'	N/A
	1FC Min**	12'	12'	14'	18'	N/A

Multiple Unit Spacing		7.5'	10'	12'	16'	20'
LP06VS*	1FC Avg	54'	74'	75'	60'	58'
	1FC Min**	31'	34'	34'	42'	34'

* Results assume Wall Mount with 6'-wide path of egress in 15'-wide aisle of 200'x200'x30', open warehouse with reflectances of 10/10/10. Based upon 522.7 lumens per lamp for a total of 1,045 delivered lumens with the LP06VS lamp.

** Also meets the additional illumination requirements of NFPA 101: 1FC minimum and max/min ratio of 40:1.

Catalog Number
Notes
Type

FEATURES & SPECIFICATIONS

INTENDED USE — Provides a minimum of 90 minutes illumination for the rated wattage upon loss of AC power to meet and exceed code required emergency lighting. Ideal for applications requiring attractive LED unit equipment with quick installation and unparalleled performance for lower mounting heights.

Certain airborne contaminants can diminish the integrity of acrylic and/or polycarbonate.
[Click here for Acrylic-Polycarbonate Compatibility table for suitable uses.](#)

CONSTRUCTION — The housing is a standard white (black optional) thermoplastic with a compact and low-profile contemporary design. It is SVA flame rated, impact-resistant, scratch-resistant and corrosion proof. The UV-stable resin resists discoloration from natural and man-made light sources. There is a low-profile, integrated and back-lit test switch with an easily visible multi-color LED status indicator. The back-plate contains a universal j-box mounting pattern to facilitate ease of installation on a wide variety of j-boxes and the front housing allows tool-less access for ease of maintenance.

ELM2LF: Fixed lamp head arrangement for ease of installation and maximum path of egress aiming coverage with no aiming required for wall mount applications.

ELM2L: Unique track and swivel arrangement permits full range of direction for lamp head adjustment.

OPTICS — Both the ELM2L and ELM2LF feature two, high performance LEDs with acrylic lens' rated at 1.2 watts each and delivering a total of 220 lumens in a linear pattern (LP220L). The typical life of an LED is 10 years. The LED light sources typically never need to be replaced under normal conditions for normal off applications.

CCT: 5000K.

ELECTRICAL — Orderable in multiple voltages (see ordering tree for specific voltages).

Current-limiting charger maximizes battery life and minimizes energy consumption and provides low operating costs. Small battery chargers Certified in the CA Title 20 Appliance Efficiency Database.

Short-circuit protection — current-limiting charger circuitry protects printed circuit board from shorts.

Regulated charge voltage maintains constant-charge voltage over a wide range of line voltages.

Prevents over/undercharging that shortens battery life and reduces capacity. Filtered charger input minimizes charge voltage ripple and extends battery life.

BATTERY: Sealed, maintenance-free nickel-cadmium or Lithium Iron Phosphate.

Lithium Iron Phosphate battery powers both on board LEDs and up to 2.4W additional LED remote lamp heads simultaneously or offers extended run-time up to 3 hours.

SELF-DIAGNOSTICS and REMOTE TEST (SDRT option):

Automatic 24-hour recharge after a 90-minute discharge.

Advanced electrical design provides constant light output throughout the entire discharge period.

Brownout protection is automatically switched to emergency mode when supply voltage drops below approximately 80 percent nominal of 120, 220, 277 or 347. Other input voltages may vary.

AC/LVD reset allows battery connection before AC power is applied and prevents battery damage from deep discharge.

Self-Diagnostics: Continuously monitors AC functionality. Test switch and remote tester (RTKIT accessory) provide manual activation of 30-second diagnostic testing for on-demand visual inspection. Standard derangement monitoring will indicate disconnected battery, charger failure and displays green flashing indicator light while in emergency mode. Single multi-chromatic LED indicator to display two-state charging, test activation and three-state self-diagnostics.

Self-diagnostic testing: Five minutes every 30 days and 90 minutes annually. Diagnostic evaluation of lamps, AC to DC transfer, battery charging and condition of microprocessor. Automatic test is easily postponed for eight hours by activating manual test switch or use of remote tester (RTKIT accessory).

INSTALLATION — Wall mount and ceiling mount standard for ELM2L. Wall mount only for ELM2LF. Blind-mate connector ensures easy installation and safe maintenance. 7/8" entrance provision at top of unit for standard 1/2" conduit entry. Tool-less removal of front cover from back-plate for ease of installation and maintenance.

LISTINGS — UL damp location listed standard and wet location listed when used with the WPVS accessory, all at 50-104°F (10-40°C). Meets or exceeds all applicable requirements for UL 924, NFPA 101 (current Life Safety Code), NFPA 70 (NEC), NOM (Norma Oficial Mexicana), California Energy Commission Title 20 section 1605.3 (W)(4), FCC Title 47, Part 15, Subpart B and OSHA. List and labeled to comply with Canadian Standards C22.2 No. 141-10.

WARRANTY — 5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/customer-support/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

† Small Battery Chargers Certified in the CA Title 20 Appliance Efficiency Database.



Contemporary Commercial LED Emergency Light

ELM2L
Aimable Optics



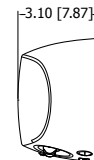
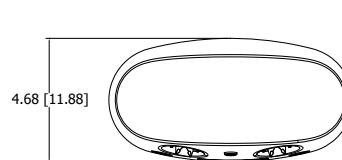
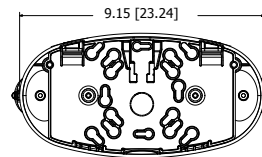
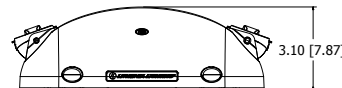
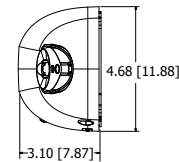
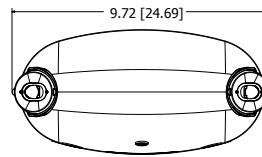
ELM2LF
Fixed Optics



LITHIUM IRON PHOSPHATE
Nickel Cadmium

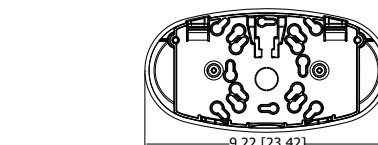
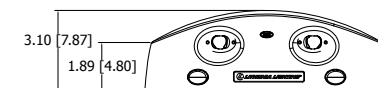
MOUNTING AND SPECIFICATIONS

All dimensions are inches (centimeters) unless otherwise indicated.



ELM2L Specifications

Length: 9.72 (24.69)
 Depth: 3.10 (7.87)
 Height: 4.68 (11.88)
 Weight: 1.31lbs (0.59kg)



ELM2LF Specifications

Length: 9.22 (23.42)
 Depth: 3.10 (7.87)
 Height: 4.68 (11.88)
 Weight: 1.25lbs (0.57kg)



ELM2L_ELM2LF Quantum® Contemporary Commercial LED Emergency Light

CS Looking for Contractor Select readily available configurations? Click here to visit Contractor Select™ spec sheet or go to www.contractorselect.com

NICKEL CADMIUM BATTERY MODELS

ORDERING INFORMATION For shortest lead times, configure product using **bolded options**.

Example: ELM2LF

Series ¹	Lamp type	Housing color	Voltage	Battery type	Automatic Testing	Options
ELM2L Aimable optics	(blank) LP220L 220 lumen, 2.4 watt, linear pattern, two lamps	(blank) White	(blank) 120/277 VAC/60Hz	(blank) Nicad	(blank) None	(blank) None
ELM2LF Fixed optics		B Black	120/347 120/347 VAC/60Hz SVOLT 220-240/50-60 Hz UVOLT 120 - 347 VAC, 50/60hz		SDRT Self Diagnostics, Remote Test ²	WPVS Wet protective vandal shield ³ USPOM Assembled in the US

Notes

- ELM2L and ELM2LF with Nicad battery type not available with remote capacity.
- SDRT only available with UVOLT.
- WPVS breaks out and ships separately and color will match (ex: WPVS SML B). Must be ordered when using for wet location applications. Decreases delivered lumens up to 20%. See spec sheet [WPVS](#) for more information.

LITHIUM IRON PHOSPHATE BATTERY MODELS

ORDERING INFORMATION For shortest lead times, configure product using **bolded options**.

Example: ELM2LF UVOLT LTP

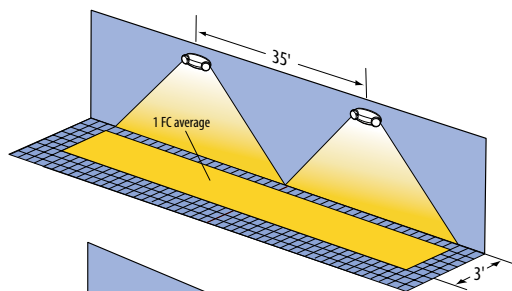
Series ¹	Lamp type	Housing color	Voltage	Battery type	Automatic Testing	Options
ELM2L Aimable Optics	(blank) LP220L 220 lumen, 2.4 Watt, Linear Pattern, two lamps	(blank) White	UVOLT 120 - 347 VAC, 50/60hz	LTP Lithium Iron Phosphate ¹	(blank) None	(blank) None
ELM2LF Fixed Optics		B Black			SDRT Self-diagnostics, remote test ¹	WPVS Wet protective vandal shield ² USPOM Assembled in the US

Notes

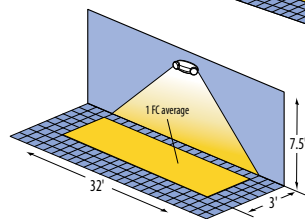
- Extended run-time or remote capacity is standard. New ELMRE and ELMRW style remotes are compatible with both SDRT and non-SDRT versions (see page 3).
- WPVS breaks out and ships separately and color will match (ex: WPVS SML B). Must be ordered when using for wet location applications. Decreases delivered lumens up to 20%. See spec sheet [WPVS](#) for more information.

SPACING GUIDELINES

*Note: To see complete photometric report or download the .ies file for this product, visit Lithonia Lighting ELM2L or ELM2LF home page.



Example of multiple ELM2L luminaires illuminating a 3' path of egress.



Example of single ELM2L illuminating a 3' path of egress.
* Application image examples are using LP220L lamp.

Mounting Height	Illumination Level	Single Luminaire Coverage		Multiple Luminaire Spacing		Application Notes
		3' Path of Egress	6' Path of Egress	3' Path of Egress	6' Path of Egress	
7.5'	1FC Avg ¹	32'	20'	35'	28'	100' Corridor, 8' wide, and 12' high with 80/50/20 reflectances
10'	1FC Avg ¹	20'	NA	27'	24'	

Notes:

- Also meets the additional illumination requirements of NFPA 101: .1FC minimum and max/min ratio of 40:1.

Mounting Height	Illumination Level	Single Luminaire Coverage		Multiple Luminaire Spacing		Application Notes
		3' Path of Egress	6' Path of Egress	3' Path of Egress	6' Path of Egress	
7.5'	1FC Avg ¹	32'	24'	35'	28'	100' Corridor, 8' wide, and 12' high with 80/50/20 reflectances
10'	1FC Avg ¹	20'	14'	27'	23'	

Notes:

- Also meets the additional illumination requirements of NFPA 101: .1FC minimum and max/min ratio of 40:1.

Other Accessories: Order as separate catalog number.	
WPVS SML W	Wet protective vandal shield (must be used for wet location applications)
WPVS SML B	Wet protective vandal shield, black (must be used for wet location applications)
ELA WG1	Wireguard, 15" W x 13-1/2" H x 6" D (see spec sheet ELA-WG)
RTKIT	Remote test kit, up to 40' away (includes goggles, laser and battery)



ELM2L mounted inside the WPVS (white)



ELM2LF mounted inside WPVS (white)

ELM2L_ELM2LF Quantum® Contemporary Commercial LED Emergency Light

INDOOR/ DAMP LOCATION REMOTES

ELMRE Compatible Remotes ^{1,2,3}

LTP Compatible Remote Accessories: Order as separate catalog number.	
ELMRE LP220L SGL	Single LED Indoor remote head, white, 110 lumens
ELMRE LP220L T	Twin LED Indoor remote heads, white, 110 lumens
ELMRE LP220L FXO	Twin LED Indoor remote heads, fixed lamps, white, 220 lumens

Notes

- 1 Compatible with SDRT and non-SDRT versions.
- 2 Order the WPVS accessory for wet location listing and vandal protection.
- 3 See spec sheet [ELMRE](#). Also available in black.

BATTERY CAPACITY AND LOADNG - ELMRE REMOTES		
Battery Option	Total Capacity	Maximum # of Remote Lamp heads
LTP	4.8W	2- ELMRE LP220L SGL M12
		1 - ELMRE LP220L T M12
		1 - ELMRE LP220L FXO

* In addition to the lamp heads on the product.



[ELMRE LP220L SGL](#)



[ELMRE LP220L T](#)



[ELMRE LP220L FXO](#)

OUTDOOR / WET LOCATION REMOTES

ELMRW Compatible Remotes

LTP Compatible Remote Accessories: Order as separate catalog number.	
ELMRW LP220L DDBTXD SGL	Single LED Wet Location remote head, dark bronze, 110 lumens
ELMRW LP220L DDBTXD T	Twin LED Wet Location remote heads, dark bronze, 220 lumens



[ELMRW LP220L DDBTXD SGL](#)



[ELMRW LP220L DDBTXD T](#)

BATTERY CAPACITY AND LOADING		
Battery Option	Total Capacity	Maximum# Remote lamp heads*
LTP	4.8W	2- ELMRW LP220L SGL
		1 - ELMRW LP220L T

* These are in addition to the lamp heads on the product.

SPECIFICATIONS

ELECTRICAL			
Primary Circuit			
Type	Volts	Input amps	Watts
Nicad	120	0.018	1.09
	347	0.012	1.34
Lithium Iron Phosphate	120	0.022	1.35
	347	0.014	1.64

LTP EXTENDED RUN-TIMES	
Products	Total Run-time with no remotes
ELM2L LTP	3 hours
ELM2LF LTP	3 hours

BATTERY			
UVOLT Nicad (6V), All Other Nicad (3.6V)			
Typical Shelf life ¹	Typical life ¹	Maintenance ²	Temperature Range ^{3,4}
3 years	7-9 years	none	50°-104°F (10-40°C)
Lithium Iron Phosphate (9.6V)			
Typical Shelf life ¹	Typical life ¹	Maintenance ²	Temperature Range ^{3,4}
1 years	7-9 years	none	50°-104°F (10-40°C)

Notes

- 1 At 77°F (25°C) ambient temperature, charge/discharge cycles and prolonged full discharge may reduce useful life.
- 2 All life safety equipment, including emergency lighting for path of egress must be tested in accordance with all National Fire Protection Association (NFPA) and local codes. Failure to perform the required testing could jeopardize the safety of occupants and will void all warranties.
- 3 Ambient temperature range where unit will provide capacity for 90 minutes. Higher and lower temperatures affect life and capacity.
- 4 Battery life is negatively impacted by many variables including temperature, charging rates, number of cycles and deep discharges due to long periods of time without AC power.



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B4: Packaged Aggregates

SAFETY DATA SHEET
(Complies with OSHA 29 CFR 1910.1200)

SECTION I: PRODUCT IDENTIFICATION

The QUIKRETE® Companies
One Securities Centre
3490 Piedmont Road, Suite 1300
Atlanta, GA 30305

Emergency Telephone Number
(770) 216-9580
Information Telephone Number
(770) 216-9580

SDS B4
Revision: Jun-15

<u>QUIKRETE® Product Name</u>	<u>Code #</u>
Playsand	1113
All-Star Play Sand Premium Dry	1470-10
All-Star Play Sand Washed	1470-09

Product Use: Sand for use in children's sand boxes. Not for industrial use.

SECTION II - HAZARD IDENTIFICATION

Hazard-determining components of labeling: Silica

2.1 Classification of the substance or mixture

Carcinogen – Category 1A
Specific Target Organ Toxicity Single Exposure – Category 3
Specific Target Organ Toxicity Repeat Exposure – Category 1
Eye Irritant – Category 2B

2.2a Signal word DANGER!

2.2b Hazard Statements

May cause cancer through chronic inhalation
May cause respiratory irritation
Causes damage to lungs through prolonged or repeated inhalation
Causes eye irritation if particles or dust get in eye

Industrial hygiene experts have studied long-term daily use of silica sands in sand-blasting and other occupations generating extreme volumes of dust. They have determined that long term, daily exposure to high concentrations of blasting sand dust causes damage to the lungs, may cause

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silicosis, and may cause cancer. **Do not use for sand blasting.** There are extensive OSHA precautions required for sand blasting.

2.2c Pictograms**2.2d Precautionary statements**

Do not handle until all safety precautions have been read and understood.
Wear protective gloves, eye protection, and protective clothing.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Use only in a well-ventilated area.
Do not breathe dust.

If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately seek medical advice or attention if symptoms are significant or persist.

Dispose of contents/containers in accordance with all regulations.

2.3 Additional Information

2.3a HNOC – Hazards not otherwise classified: Not applicable

2.3b Unknown Acute Toxicity: None

2.3c WHMIS Classification

Class D2A – Chronic Toxic Effects – Carcinogen
Class D2B – Eye Irritant

2.3d Label Elements According To WHMIS**Hazard Symbols**

Signal Word
DANGER!



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SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

<u>Hazardous Components</u>	<u>CAS No.</u>	<u>% by Weight</u>
Sand, Silica, Quartz	14808-60-7	100

SECTION IV – FIRST AID MEASURES

4.1 Description of the first-aid measures

General information:

After inhalation: Remove person to fresh air and keep comfortable for breathing.

After skin contact: Rinse skin with water.

After eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

After swallowing: If conscious, have the victim drink plenty of water and call a physician immediately. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms/effects, acute and delayed

Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated inhalation. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: Causes mechanical skin irritation.

Eye Contact: Causes eye irritation if particles or dust get in eye.

Ingestion: Ingestion of large quantities may cause discomfort and/or distress, nausea or vomiting.

4.3 Indication of immediate medical attention and special treatment needed:

Immediately seek medical advice or attention if symptoms are significant or persist.

SECTION V - FIRE FIGHTING MEASURES

5.1 Flammability of the Product: Non-flammable and non-combustible

5.2 Suitable extinguishing agents: Treat for surrounding material

5.3 Special hazards arising from the substance or mixture: None

5.3a Products of Combustion: None

5.3b Explosion Hazards in Presence of Various Substances: Non-explosive in presence of shocks

SECTION VI – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See section VIII). Keep unprotected persons away.

6.2 Methods and material for containment and cleaning up:



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Do not allow to enter sewers/ surface or ground water. Dispose of unwanted materials and containers properly in accordance with all regulations.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

7.1 Handling

Precautions for safe handling: Do not use for sand blasting. There are extensive OSHA precautions required for sand blasting. Ensure good ventilation/exhaustion at the workplace. DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended. Wear appropriate PPE (See section 8). Do not mix with other chemical products, except as indicated by the manufacturer. Do not get in eyes, on skin or clothing. Good housekeeping is important to prevent accumulation of dust.

7.2 Storage

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility: Not required.

Further information about storage conditions: Keep dry.

SECTION VIII – EXPOSURE CONTROL MEASURES / PERSONAL PROTECTION

8.1 Components with limit values that require monitoring at the workplace:

Hazardous Components	CAS No.	PEL (OSHA) mg/M ³	TLV (ACGIH) mg/M ³
Silica Sand, crystalline	14808-60-7	0.1	0.025 (resp)

8.2 Exposure Controls

Use ventilation adequate to keep exposures below recommended exposure limits.

8.3 General protective and hygienic measures

Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.

8.3a Personal protective equipment

Protection of hands:

Wear gloves of adequate length to offer appropriate skin protection from incidental contact. General duty work gloves have been found to offer adequate protection for most intended uses.

Eye protection:

Wear approved eye protection properly fitted dust- proof chemical safety glasses.



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Respiratory protection:

A NIOSH-approved dust mask or filtering face piece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional, following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

General Information

Appearance	Form: Granular Solid Color: Varies Odor: None
pH-value at 20°C (68 °F):	Not applicable
Boiling point/Boiling range:	Not applicable
Flash point:	Not applicable
Auto igniting:	Product is not self-igniting
Vapor pressure at 21°C (70°F)	Not applicable
Density at 25°C (77 °F):	2.5-2.8
Solubility in / Miscibility with	
Water:	Insoluble
VOC content:	0 g/L VOC

SECTION X – STABILITY AND REACTIVITY

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal storage conditions. Keep in dry storage.

10.3 Possibility of hazardous reaction

No dangerous reaction known under conditions of normal use.

10.4 Thermal decomposition / conditions to be avoided

No decomposition if used according to specifications.

10.5 Incompatible materials

Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, or oxygen difluoride may cause fires

10.6 Hazardous Decomposition or By-products

Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas – silicon tetrafluoride.

SECTION XI – TOXICOLOGICAL INFORMATION

11.1 Exposure Routes: Inhalation, skin contact, eye contact, or ingestion.



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11.2 Symptoms related to physical/chemical/toxicological characteristics:

Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated exposure. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: May cause mechanical skin irritation.

Eye Contact: Causes eye irritation if particles or dust gets in eye.

Ingestion: Ingestion of large quantities may cause discomfort and/or distress.

11.3 Delayed, immediate and chronic effects of short-term and long-term exposure

Short Term

Skin Corrosion/Irritation: Not applicable

Serious Eye Damage/Irritation: Causes eye irritation if particles or dust gets in eye

Respiratory Sensitization: Not applicable

Skin Sensitization: Not applicable

Specific Target Organ Toxicity-Single Exposure: (Category 3) May cause respiratory irritation

Aspiration Hazard: Not applicable

Long Term

Carcinogenicity: May cause cancer through chronic inhalation.

Germ Cell Mutagenicity: Not applicable

Reproductive Toxicity: Not applicable

Specific Target Organ Toxicity- Repeated Exposure: (Category 1) Causes damage to lungs through prolonged/repeated exposure

Synergistic/Antagonistic Effects: Not applicable

SECTION XII – ECOLOGICAL INFORMATION

12.1 Ecotoxicity

No further relevant information available.

12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential:

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

12.5 Other Adverse Effects

No further relevant information available.

SECTION XIII – DISPOSAL CONSIDERATIONS



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13.1 Waste Disposal Method

The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is not classified as a hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302). Disposal must be made in accordance with local, state and federal regulations.

13.2 Other disposal considerations

Uncleaned packaging

Recommendation: Disposal must be made in accordance with local, state and federal regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

SECTION XIV – TRANSPORT INFORMATION

	DOT (U.S.)	TDG (Canada)
UN-Number	Not Regulated	Not Regulated
UN proper shipping name	Not Regulated	Not Regulated
Transport Hazard Class(es)	Not Regulated	Not Regulated
Packing Group (if applicable)	Not Regulated	Not Regulated

14.1 Environmental hazards:

Not applicable

14.2 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code

Not applicable

14.3 Special precautions for user

Do not handle until all safety precautions have been read and understood.

SECTION XV – OTHER REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislations specific for the chemical

Canada

WHMIS Classification: Considered to be a D2A and D2B hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations and subject to the requirements of Health Canada's Workplace Hazardous Material Information (WHMIS). This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

15.2 US Federal Information

SARA 302/311/312/313 Components

**CEMENT & CONCRETE PRODUCTS™**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302, 311, 312 or 313.

RCRA: Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.

CERCLA: Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.

Emergency Planning and Community Right to Know Act (SARA Title III): Crystalline silica (quartz) is not an extremely hazardous substance under Section 302 and is not a toxic chemical subject to the requirements of Section 313.

FDA: Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR §175.300(b)(3)(xxvi).

NTP: Respirable crystalline silica, primarily quartz dusts occurring in industrial and occupational settings, is classified as Known to be a Human Carcinogen.

OSHA Carcinogen: Crystalline silica (quartz) is not listed.

15.3 State Right to Know Laws

California Prop. 65 Components

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

California Inhalation Reference Exposure Level (REL): California established a chronic REL of 3 µg for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no adverse health effects are anticipated in individuals indefinitely exposed to the substance at that level.

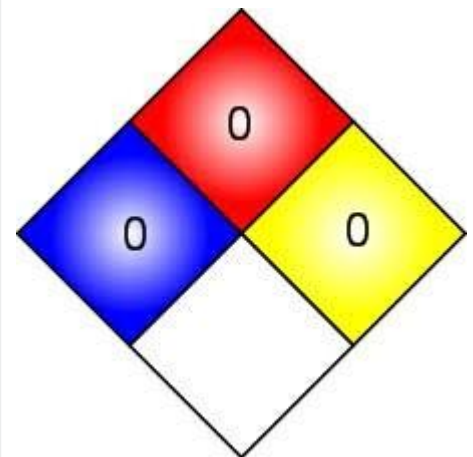
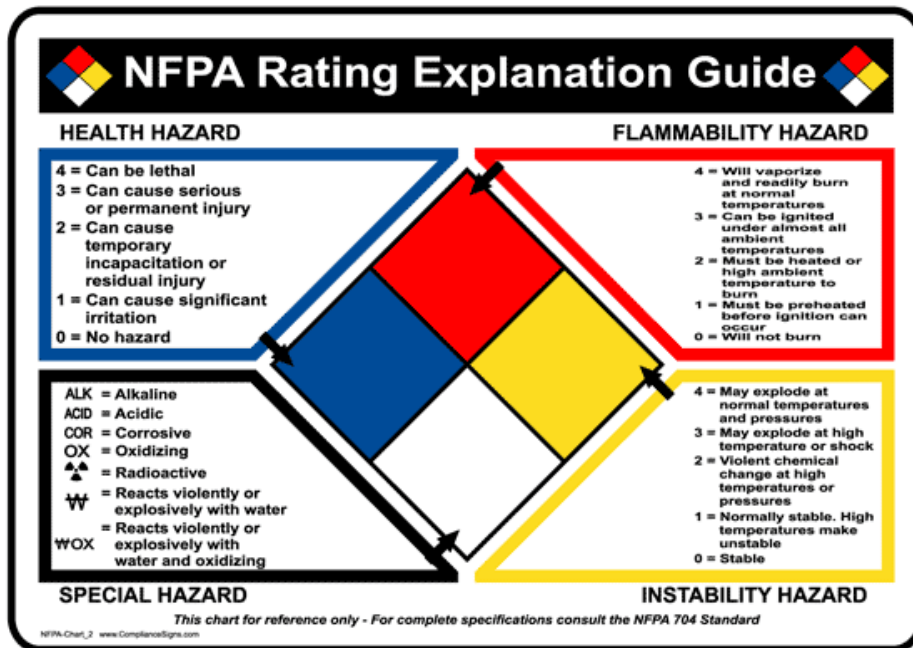
Massachusetts Toxic Use Reduction Act: Silica, crystalline (respirable size, <10 microns) is "toxic" for purposes of the Massachusetts Toxic Use Reduction Act.

15.4 Global Inventories

DSL All components of this product are on the Canadian DSL list.

TSCA No.: Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7. All constituents are listed in the TSCA inventory.

15.5 NFPA Ratings



SECTION XVI – OTHER INFORMATION

Last Updated: June 4, 2015

NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products.

Prepared by The QUIKRETE® Companies
 Phone (800) 282-5828
www.QUIKRETE.com

End of SDS



CEMENT & CONCRETE PRODUCTS™

QUIKRETE® SAND & GRAVEL PRODUCTS

DIVISION 32

Aggregate
32 15 00

PRODUCT DESCRIPTION

QUIKRETE® provides a variety of sands and gravels for general and special uses as follows:



All Purpose Sand #1152:

A general use sand suitable for use as a fine aggregate in concrete, underlayment for brick pavers, traction on snow and ice, and mixing with potting soil. *Meets ASTM C33, Standard Specification for Concrete Aggregates.*

Sizes: 50 lb (22.6 kg) – 56 bags per pallet 70 lb (31.7 kg) – 42 bags per pallet



Play Sand #1113:

Is specially graded sand that has been washed, and screened for use in children's sandboxes. It is best used when kept damp.

Sizes: 50 lb (22.6 kg) – 56 bags per pallet



All Purpose Gravel #1151:

High quality clean gravel with an approximate top size of 3/8" (10 mm). Suitable for landscaping, concrete manufacture and a variety of other purposes. *Meets ASTM C33, Standard Specification for Concrete Aggregates.*

Sizes: 50 lb (22.6 kg) – 56 bags per pallet



Tubesand #1159:

This sand is designed in a tube shaped bag that fits along side the rear axle, above the wheel wells, or in the bed of a pick up truck. It is used for traction and vehicle weight for winter driving conditions.

Size: 60 lb (27.2 kg) – 42 bags per pallet

Deco Pebbles # 9905-50

Use for landscaping around patios, decks , gardens, etc.

Marble Chips # 9906-50

Use for landscaping around patios, decks , gardens, etc.

WARRANTY

NOTICE: Obtain the applicable LIMITED WARRANTY: at www.quikrete.com/product-warranty or send a written request to The Quikrete Companies, LLC, Five Concourse Parkway, Atlanta, GA 30328, USA. Manufactured under the authority of The Quikrete Companies, LLC. © 2018 Quikrete International, Inc.

* Refer to www.quikrete.com for the most current technical data, SDS, and guide specifications



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Premium Engineered Wood Fiber Playground Mulch



Engineered Wood Fiber (EWF) is the most common type of playground safety surfacing. If you want an inexpensive, natural-looking surface that also meets Americans with Disabilities Act (ADA) requirements, then Engineered Wood Fiber is the product for you.

EWF, as with all of our playground safety surfacing products, meets or exceeds Consumer Products Safety Commission (CPSC) recommendations as well as all American Society for Testing and Materials (ASTM) requirements. This product is sold by the cubic yard and is International Playground Equipment Manufacturers Association (IPEMA) certified for fall heights up to 12 feet.

Engineered Wood Fiber is manufactured from a variety of hardwoods and/or softwoods. When installed, EWF provides an impact attenuating surface that helps reduce fall related injuries.





Applications

Mulch Outfitters has provided EWF playground surfaces for a wide variety of clients, including:

Public and Private Schools

Parks and Recreation Departments

Daycares and Churches

Residential Area, Apartments Complexes, Restaurants etc.



Product Specifications

- ★ The most popular type of playground safety surfacing
- 🌲 Made from wood for a natural look
- 🕒 Will settle slightly after installation
- 🛒 EWF mulch is sold by the cubic yard



Safety Specifications

- ✔ Meets Consumer Products Safety Commission (CPSC) recommendations
- ✔ Meets Americans with Disabilities Act (ADA) requirements
- ✔ Passes Head Impact Attenuation Test ASTM F1292
- ✔ Passes Wheelchair Accessibility Test ASTM F1951
- ✔ Passes Sieve Analysis, Tramp Metal and Heavy Metal Test ASTM F2075
- ✔ International Play Equipment Manufacturers Association (IPEMA) certified
- ✔ 12" of EWF mulch is IPEMA rated for a 12' fall height



Maintenance

Engineered Wood Fiber can move around and get displaced after consistent play. It is important to make sure that the material is spread evenly and at the proper depths throughout the entire play area.

Because EWF is a loose-fill material, there is potential for foreign objects to get mixed in with the surfacing. EWF requires regular inspection and removal of foreign objects from the playground surface to ensure that the surfaces remains safe for play.

Engineered Wood Fiber will compact and decompose over time due to use and weathering. Make sure that the mulch surface is periodically checked to ensure that it is not below the recommended depth. If it is, additional material should be added.

Engineered Wood Fiber Calculator

LENGTH (FT)

WIDTH (FT)

AREA (SQ. FT)

DEPTH (INCHES)*

Calculate

Cubic Yards of Loose EWF

Cubic Yards of Compacted EWF

Engineered Wood Fiber Photo Gallery



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Part of the Recreational Group family of companies.



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Flooring Tiles

Inline Hockey
Flooring

Rubber Playground
Surfacing

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(https://www.swisstrax.com/)

(http://www.icecourt.com/)

(http://www.playitsurfacing.com/)

(http://www.ballhoggoals.com/)

Mulch Outfitters

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Headquartered near metro Atlanta, Mulch Outfitters supplies material to and performs installations at over 1,000 playgrounds each year throughout the Southeastern United States.

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ALT - 1

TECHNICAL DATA SHEET FOR E32D5 ON THE SK32 STAND

Full Size Digital / Electric Convection Oven on a Stainless Steel Stand

STANDARD FEATURES

- 5 full size sheet pan capacity
- 3½" / 85mm tray spacing
- Compact 28⅞" / 735mm width
- Digital display Time and Temperature Controls
- Large easy view ¾" / 20mm high displays
- Electronic thermostat control
- Electronic timer with countdown or time count modes
- Manual mode and Program mode

NEW 20 programs with 3 stage cooking and stage end alarms

NEW Core Probe program cooking (optional Core Probe Kit)

NEW Moisture injection mode (5 levels) and manual injection

NEW 2 speed bi-directional reversing fan system

- 6.3kW heating (220-240V) / 5.6kW heating (208V)
- Safe-Touch vented side hinged door (standard LH hinge). Optional RH hinge (field convertible)
- Stay-Cool door handle
- Porcelain enameled oven chamber
- Plug-in continuous oven door seal
- Dual halogen oven lamps
- Anti-skid 2" / 50mm dia. 3" / 76mm high adjustable stainless steel feet
- 5 oven wire racks supplied
- 100% recyclable packaging

ACCESSORIES

- Optional M236060 Core Temperature Probe Kit
- Turbofan SK32 Oven Stand
- DSK32 Double Stacking Kit



THE ADVANTAGE

E32D5

Unit shall be a Moffat electrically heated Turbofan convection oven E.T.L. listed and NSF-4 listed. The oven shall have a one piece porcelain enameled oven chamber, stainless top and sides and safe touch vented easy clean side hinged door that offers field reversible hinging. Oven shall have capacity for five full size sheet pans. The oven shall be controlled by an electronic control having separate digital displays and adjusting knobs for time and temperature functions. The oven control shall allow both manual and programmed operating modes with programmable moisture injection, 2 speed oven fan, and 3 stage cooking. A core temperature probe M236060 is optional. The unit shall include dual halogen oven lamps. Oven shall be able to be bench mounted on 3" / 76mm feet or mounted on oven stand model SK32. Unit shall be supplied in 100% recyclable shipping packaging.

SK32

Unit shall be a Moffat Turbofan stainless steel oven stand NSF-4 listed. The stand shall be constructed from stainless steel tube with castors, with front castors having dual swivel and wheel locks. It shall be fitted with 6 tray runners suitable for up to 12 half size sheet pans or 6 full size sheet pans. The stand shall be fully compatible with, and support, Turbofan Convection Oven models E32D and G32D. Unit shall be supplied in 100% recyclable shipping packaging.

E32D5 Full Size Digital / Electric Convection Oven - 2 speed fan on a Stainless Steel Stand

CONSTRUCTION

Porcelain enameled fully welded oven chamber
Stainless steel front, sides and top exterior
Stainless steel oven fan baffle and oven vent
Removable 5 position stainless steel side racks
Oven racks chrome plated wire (5 supplied)
Stainless steel frame side hinged door
0.2" / 5mm thick door outer glass
0.2" / 5mm thick low energy loss door inner glass
Full stainless steel welded door handle
Stainless steel control panel
Aluminized coated steel base and rear panels

CONTROLS

Electronic controls with Digital Time and Temperature display, Manual or Program modes
Large ¾" / 20mm high LED displays
Two individual time and temperature setting control knobs
ON/OFF and Oven Lights key
Fan LO speed key
Timer Start/Stop key
Moisture injection key (5 levels)
Programs select key
Actual temperature display key
Adjustable buzzer/alarm volume
Thermostat range 150-500°F / 50-260°C
Timer range from 180 minutes in countdown mode
Timer range up to 999 minutes in time count mode for holding, slow cooking
Optional Core Probe temperature range 122-194°F / 50-90°C
Over-temperature safety cut-out

CLEANING

Stainless steel top and side exterior panels
Porcelain enameled oven chamber
Fully removable stainless steel oven side racks
Removable stainless steel oven fan baffle
Easy clean door system with hinge out door inner glass (no tools required)
Removable plug-in oven door seal (no tools required)
3" / 76mm high stainless steel feet for easy access underside

SPECIFICATIONS

Electrical Requirements
208V, 60Hz, 1-phase, 5.8kW, 28A
220-240V, 60Hz, 1-phase, 6.5W, 27A
No cordset supplied

Water Requirements (optional)

Cold water connection ¾" GHT male
80psi maximum inlet pressure / 20psi minimum inlet pressure

External Dimensions

Width 28 7/8" / 735mm
Height 28 ¾" / 730mm including 3" / 76mm feet
Depth 31 7/8" / 810mm

Oven Internal Dimensions

Width 18 ¼" / 465mm
Height 20 ¼" / 515mm
Depth 27 ½" / 700mm
Volume 6ft³ / 0.17m³

Oven Rack Dimensions

Width 18" / 460mm
Depth 26" / 660mm

Nett Weight (E32D5)

196lbs / 89kg

Packing Data (E32D5)

231lbs / 105kg
20.1ft³ / 0.57m³
Width 29 7/8" / 760mm
Height 32" / 815mm
Depth 36 3/8" / 925mm

SK32 Stainless Steel Stand

All stainless steel welded frame oven stand for Turbofan E32D, E32T and G32D Series ovens
6 position tray runners standard
3" / 76mm diameter wheel swivel castors standard with 2 front castors with dual swivel and wheel
Welded 1 ½" and 1 ¼" square tube front and rear frames
Welded rack supports/side frames
4 dia. 3" / 76mm swivel castors with 2 front castors dual wheel and swivel lock
Top frame oven supports suit Turbofan E32D, E32T and G32D Series oven mounting
Supplied CKD for assembly on site

External Dimensions (SK32 Oven Stand)

Width 28 7/8" / 735mm
Height 34 5/8" / 880mm
Depth 25 5/8" / 650mm

Nett Weight (SK32 Oven Stand)

40lbs / 18.5kg

Packing Data (SK32 Oven Stand)

51lbs / 23kg
3.5ft³ / 0.1m³
Width 32 5/8" / 830mm
Height 35 ½" / 900mm
Depth 6" / 152mm

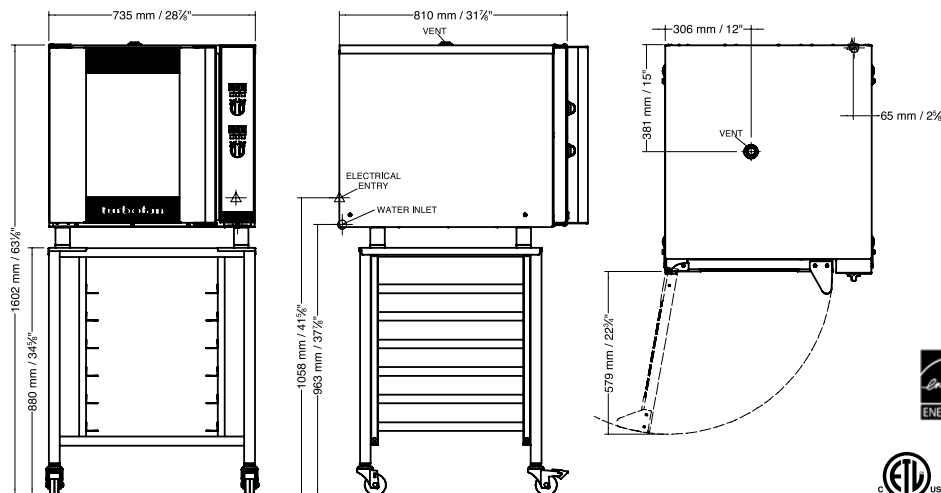
INSTALLATION CLEARANCES

Rear 2" / 50mm
LH Side 2" / 50mm
RH Side* 3" / 75mm

* For fixed installations a minimum of 20" / 500mm is required for service

CLEARANCE FROM SOURCES OF HEAT

A minimum distance of 12" / 300mm from the appliance sides is required



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Christchurch 8081 New Zealand



ISO9001
Quality
Management
Standard

Designed and manufactured by



ISO9001

All Turbofan products are designed and manufactured by Moffat using the internationally recognised ISO9001 quality management system, covering design, manufacture and final inspection, ensuring consistent high quality at all times.

In line with policy to continually develop and improve its products, Moffat Limited reserves the right to change specifications and design without notice.

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