

SECTION 122413 - ROLLER WINDOW SHADES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes roller shades to be installed in the following locations:
 - 1. All occupied spaces with exterior window openings except as follows:
 - a. Corridors.
 - b. Vestibules.
 - c. Entrances.
 - d. Clerestories.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include styles, material descriptions, construction details, dimensions of individual components and profiles, features, finishes, and operating instructions.
- B. Shop Drawings: Show location and extent of roller shades. Include elevations, sections, details, and dimensions not shown in Product Data. Show installation details, mountings, attachments to other work, operational clearances, and relationship to adjoining work.
- C. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, based on input from installers of the items involved:
 - 1. Shade mounting assembly and attachment.
 - 2. Size and location of access to shade operator and adjustable components.
 - 3. Minimum Drawing Scale: 1/8 inch = 1 foot (1:96).
- D. Samples for Initial Selection: For each colored component of each type of shade indicated.
 - 1. Include similar Samples of accessories involving color selection.
- E. Samples for Verification:
 - 1. Complete, full-size operating unit not less than 16 inches (400 mm) wide for each type of roller shade indicated.
 - 2. For the following products:
 - a. Shade Material: Not less than 3 inches (76 mm) square, with specified treatments applied. Mark face of material.
- F. Window Treatment Schedule: For roller shades. Use same designations indicated on Drawings.

- G. Product Certificates: For each type of roller shade, signed by product manufacturer.
- H. Qualification Data: For Installer.
- I. Product Test Reports: For each type of roller shade.
- J. Maintenance Data: For roller shades to include in maintenance manuals. Include the following:
 - 1. Methods for maintaining roller shades and finishes.
 - 2. Precautions about cleaning materials and methods that could be detrimental to fabrics, finishes, and performance.
 - 3. Operating hardware.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Fabricator of products.
- B. Source Limitations: Obtain roller shades through one source from a single manufacturer.
- C. Fire-Test-Response Characteristics: Provide roller shade band materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:
 - 1. Flame-Resistance Ratings: Passes NFPA 701.
- D. Product Standard: Provide roller shades complying with WCMA A 100.1.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver shades in factory packages, marked with manufacturer and product name, fire-test-response characteristics, and location of installation using same designations indicated on Drawings and in a window treatment schedule.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install roller shades until construction and wet and dirty finish work in spaces, including painting, is complete and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
- B. Field Measurements: Where roller shades are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Allow clearances for operable glazed units' operation hardware throughout the entire operating range. Notify Architect of discrepancies. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1.7 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Rollers Shades: Before installation begins, for each size, color, texture, and pattern indicated, full-size units equal to 5 percent of amount installed.

PART 2 - PRODUCTS

2.1 ROLLER SHADES

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Mecho Shade Systems, Inc.; Mecho/5, or a comparable product by one of the following:
 1. Hunter Douglas, Inc.; Hunter Douglas Window Fashions Division
 2. Mecho Shade Systems, Inc.
 3. Nysan Shading Systems Ltd.
- B. Shade Band Material: Basis-of-Design is ThermoVeil 1300 Series.
 1. Colors: As selected by Architect from manufacturer's full range
 2. Material Openness Factor: Five percent.
 3. Trim: As indicated by manufacturer's designation for style and color.
- C. Rollers: Electrogalvanized or epoxy primed steel or extruded-aluminum tube of diameter and wall thickness required to support and fit internal components of operating system and the weight and width of shade band material without sagging; designed to be easily removable from support brackets; with manufacturer's standard method for attaching shade material. Provide capacity for one roller shade band(s) per roller, unless otherwise indicated on Drawings.
- D. Direction of Roll: Regular, from back of roller.
- E. Mounting Brackets: Fascia end caps, fabricated from steel finished to match fascia or headbox.
- F. Fascia: L-shaped, formed-steel sheet or extruded aluminum; long edges returned or rolled; continuous panel concealing front and bottom of shade roller, brackets, and operating hardware and operators; length as indicated on Drawings; removable design for access.
- G. Top/Back Cover: L-shaped; material and finish to match fascia; combining with fascia and end caps to form a six-sided headbox enclosure sized to fit shade roller and operating hardware inside.
- H. Bottom Bar: Steel or extruded aluminum, with plastic or metal capped ends. Provide concealed, by pocket of shade material, internal-type bottom bar with concealed weight bar as required for smooth, properly balanced shade operation.
- I. Mounting: Inside mounting permitting easy removal and replacement without damaging roller shade or adjacent surfaces and finishes.
- J. Hold-Down Brackets and Hooks or Pins and Side Channels: Manufacturer's standard for fixing shade in place, keeping shade band material taut, and reducing light gaps when shades are closed.
- K. Shade Operation: Manual; with continuous-loop bead-chain, clutch, and cord tensioner and bracket lift operator.
 1. Position of Clutch Operator: Left side of roller, as determined by hand of user facing shade from inside.
 2. Clutch: Capacity to lift size and weight of shade; sized to fit roller or provide adaptor.

3. Lift-Assist Mechanism: Manufacturer's standard spring assist for balancing roller shade weight and lifting heavy roller shades.
4. Loop Length: Full length of roller shade.
5. Bead Chain: Stainless steel.
6. Cord Tensioner Mounting: Sill.
7. Operating Function: Stop and hold shade at any position in ascending or descending travel.

2.2 ROLLER SHADE FABRICATION

- A. Product Description: Roller shade consisting of a roller, a means of supporting the roller, a flexible sheet or band of material carried by the roller, a means of attaching the material to the roller, a bottom bar, and an operating mechanism that lifts and lowers the shade.
- B. Concealed Components: Noncorrodible or corrosion-resistant-coated materials.
 1. Lifting Mechanism: With permanently lubricated moving parts.
- C. Unit Sizes: Obtain units fabricated in sizes to fill window and other openings as follows, measured at 74 deg F (23 deg C):
 1. Shade Units Installed between (Inside) Jambs: Edge of shade not more than 1/4 inch (6 mm) from face of jamb.
 - a. For window openings comprised of a single window unit: Provide one unit per opening.
 - b. For window openings comprised of multiple window units (multiple vertical window mullions): Provide one unit per window unit with shade unit divisions equally spaced at vertical window mullions.
 2. Length equal to head to sill dimension of opening in which each shade is installed.
- D. Installation Brackets: Designed for easy removal and reinstallation of shade, for supporting fascia, roller, and operating hardware and for hardware position and shade mounting method indicated.
- E. Installation Fasteners: No fewer than two fasteners per bracket, fabricated from metal noncorrosive to shade hardware and adjoining construction; type designed for securing to supporting substrate; and supporting shades and accessories under conditions of normal use.
- F. Color-Coated Finish: For metal components exposed to view, apply manufacturer's standard baked finish complying with manufacturer's written instructions for surface preparation including pretreatment, application, baking, and minimum dry film thickness.
- G. Colors of Metal and Plastic Components Exposed to View: As selected by Architect from manufacturer's full range, unless otherwise indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, operational clearances, and other conditions affecting performance.
 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 ROLLER SHADE INSTALLATION

- A. Install roller shades level, plumb, and aligned with adjacent units according to manufacturer's written instructions, and located so shade band is not closer than 2 inches (50 mm) to interior face of glass. Allow clearances for window operation hardware.

3.3 ADJUSTING

- A. Adjust and balance roller shades to operate smoothly, easily, safely, and free from binding or malfunction throughout entire operational range.

3.4 CLEANING AND PROTECTION

- A. Clean roller shade surfaces after installation, according to manufacturer's written instructions.
- B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that roller shades are without damage or deterioration at time of Substantial Completion.
- C. Replace damaged roller shades that cannot be repaired, in a manner approved by Architect, before time of Substantial Completion.

END OF SECTION 122413

SECTION 123200 - MANUFACTURED WOOD CASEWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Plastic-laminate-faced wood cabinets of stock design.
2. Plastic-laminate countertops.
3. Solid-surfacing-material window sills.
4. Epoxy resin countertop elements.

B. Related Sections:

1. Division 09 Section "Resilient Base and Accessories" for resilient base applied to manufactured wood casework.

1.3 DEFINITIONS

- A. MDF: Medium-density fiberboard.
- B. Exposed Portions of Cabinets: Surfaces visible when doors and drawers are closed, including bottoms of cabinets more than 48 inches (1220 mm) above floor, and surfaces visible in open cabinets.
- C. Semiexposed Portions of Cabinets: Surfaces behind opaque doors, such as interiors of cabinets, shelves, dividers, interiors and sides of drawers, and interior faces of doors. Tops of cases 78 inches (1980 mm) or more above floor are defined as semiexposed.
- D. Concealed Portions of Cabinets: Surfaces not usually visible after installation, including sleepers, web frames, dust panels, and ends and backs that are placed directly against walls or other cabinets.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work. Show fabrication details, including types and locations of hardware. Show installation details, including field joints and filler panels. Indicate manufacturer's catalog numbers for casework.
- C. Samples for Initial Selection: For cabinet finishes and for each type of top material indicated.
- D. Samples for Verification: 8-by-10-inch (200-by-250-mm) Samples for each type of finish, including top material.

- E. Qualification Data: For qualified Installer.
- F. Warranty: Sample of special warranty.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Source Limitations: Obtain manufactured wood casework from single source from single manufacturer.
- C. Quality Standard: Unless otherwise indicated, comply with requirements for modular cabinets in AWI's "Architectural Woodwork Quality Standards."
 - 1. Provide AWI Quality Certification Program labels or certificate indicating that manufactured wood casework complies with requirements.
- D. Product Designations: Drawings indicate sizes, configurations, and finish material of manufactured wood casework by referencing designated manufacturer's catalog numbers. Other manufacturers' casework of similar sizes and door and drawer configurations, of same finish material, and complying with the Specifications may be considered. Refer to Division 01 Section "Product Requirements."

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver manufactured wood casework only after painting, utility roughing-in, and similar operations that could damage, soil, or deteriorate casework have been completed in installation areas. If casework must be stored in other than installation areas, store only in areas where environmental conditions meet requirements specified in "Project Conditions" Article.
- B. Keep finished surfaces covered with polyethylene film or other protective covering during handling and installation.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install manufactured wood casework until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above ceilings is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.
- B. Field Measurements: Verify actual dimensions of construction contiguous with manufactured wood casework by field measurements before fabrication.

1.8 COORDINATION

- A. Coordinate layout and installation of framing and reinforcements in walls and partitions for support of manufactured wood casework.

1.9 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of manufactured wood casework that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Delamination of components or other failures of glue bond.
 - b. Warping of components.
 - c. Failure of operating hardware.
 - d. Deterioration of finishes.
 - 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Plastic-Laminate-Faced Manufactured Casework:
 - a. Case Systems Inc.
 - b. Fisher Hamilton L.L.C.
 - c. LSI Corporation of America; a Sagas International company.
 - d. Stevens Industries, Inc.
 - e. TMI Systems Design Corporation.

2.2 MATERIALS, GENERAL

- A. Maximum Moisture Content for Lumber: 7 percent for hardwood and 12 percent for softwood.
- B. Softwood Plywood: DOC PS 1.
- C. Particleboard: ANSI A208.1, Grade M-2.
- D. MDF: ANSI A208.2, Grade 130.
- E. Plastic Laminate: High-pressure decorative laminate complying with NEMA LD 3.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Formica Corporation.
 - b. Nevamar Company, LLC; Decorative Products Div.
 - c. Wilsonart International; Div. of Premark International, Inc.
- F. Thermoset Decorative Panels: Particleboard or MDF finished with thermally fused, melamine-impregnated decorative paper complying with LMA SAT-1.
- G. Edgebanding for Plastic Laminate: Plastic laminate matching adjacent surfaces at administration areas. Rigid PVC extrusions, through color with satin finish, 3 mm thick at doors and drawer fronts, 1 mm thick elsewhere.

- H. Edgebanding for Thermoset Decorative Panels: PVC or polyester edge banding complying with LMA EDG-1 and matching thermoset decorative panels.
- I. Solid-Surfacing Material: Homogeneous solid sheets of filled plastic resin complying with ISSFA-2.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Avonite Surfaces; Aristech Acrylics LLC.
 - b. E. I. du Pont de Nemours and Company.
 - c. Formica Corporation.
 - d. Nevamar Company, LLC; Decorative Products Div.
 - e. Wilsonart International; Div. of Premark International, Inc.
 - 2. Type: Provide Standard type unless Special Purpose type is indicated.
- J. Epoxy: Factory-molded, modified epoxy-resin formulation with smooth, nonspecular finish.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Durcon Company (The).
 - b. Epoxyn Products.
 - c. Laboratory Tops, Inc.
 - d. Prime industries, inc.
 - 2. Physical Properties:
 - a. Flexural Strength: Not less than 10,000 psi (70 MPa).
 - b. Modulus of Elasticity: Not less than 2,000,000 psi (1400 MPa).
 - c. Hardness (Rockwell M): Not less than 100.
 - d. Water Absorption (24 Hours): Not more than 0.02 percent.
 - e. Heat Distortion Point: Not less than 260 deg F (127 deg C).
 - 3. Color: Black.

2.3 CABINET MATERIALS

- A. Exposed Cabinet Materials:
 - 1. Plastic Laminate: Grade VGS.
 - 2. Unless otherwise indicated, provide specified edgebanding on all exposed edges.
- B. Semiexposed Cabinet Materials:
 - 1. Thermoset Decorative Panels: Provide thermoset decorative panels for semiexposed surfaces unless otherwise indicated.
 - 2. Unless otherwise indicated, provide specified edgebanding on all semiexposed edges.
- C. Concealed Cabinet Materials:
 - 1. Plastic Laminate: Grade BKL.

2.4 DESIGN, COLOR, AND FINISH

- A. Design: Provide manufactured wood casework of the following design:
 - 1. Flush overlay with wire pulls.
- B. Thermoset Decorative Panel Colors, Patterns, and Finishes: As selected by Architect from thermoset decorative panel manufacturer's full range.
- C. Plastic-Laminate Colors, Patterns, and Finishes: As selected by Architect from plastic-laminate manufacturer's full range.
- D. PVC Edgebanding Color: As selected from casework manufacturer's full range.
- E. Solid-Surfacing Material Colors and Patterns: As selected by Architect from manufacturer's full range.

2.5 CABINET FABRICATION

- A. Plastic-Laminate-Faced Cabinet Construction: As required by referenced quality standard, but not less than the following:
 - 1. Bottoms and Ends of Cabinets, and Tops of Wall Cabinets and Tall Cabinets: 3/4-inch (19-mm) particleboard, plastic-laminate faced on exposed surfaces, thermoset decorative panels on semiexposed surfaces.
 - 2. Shelves: 3/4-inch (19-mm) particleboard, plastic-laminate faced on exposed surfaces, thermoset decorative panels on semiexposed surfaces.
 - 3. Backs of Cabinets: 1/2-inch (12.7-mm) particleboard, plastic-laminate faced on exposed surfaces, thermoset decorative panels on semiexposed surfaces.
 - 4. Drawer Fronts: 3/4-inch (19-mm) particleboard, plastic-laminate faced.
 - 5. Drawer Sides and Backs: 1/2-inch (12.7-mm) thermoset decorative panels, with glued dovetail or multiple-dowel joints.
 - 6. Drawer Bottoms: 1/4-inch (6.4-mm) thermoset decorative panels glued and dadoed into front, back, and sides of drawers. Use 1/2-inch (12.7-mm) material for drawers more than 24 inches (600 mm) wide.
 - 7. Doors: 3/4-inch (19-mm) particleboard or MDF, plastic-laminate faced.
- B. Leg Shoes: Vinyl or rubber, black, open-bottom type.
- C. Filler Strips: Provide as needed to close spaces between cabinets and walls, ceilings, and indicated equipment. Fabricate from same material and with same finish as cabinets.

2.6 CASEWORK HARDWARE AND ACCESSORIES

- A. Hardware, General: Unless otherwise indicated, provide manufacturer's standard options of satin-finish and powder-coated, commercial-quality, heavy-duty hardware.
 - 1. Use threaded metal or plastic inserts with machine screws for fastening to particleboard except where hardware is through-bolted from back side.
- B. Butt Hinges: Provide option of Chrome-plated and Powder-coated, semiconcealed, 5-knuckle hinges complying with BHMA A156.9, Grade 1, with antifriction bearings and rounded tips. Provide 2 hinges for doors less than 48 inches (1220 mm) high and 3 hinges for doors more than 48 inches (1220 mm) high.

- C. Pulls: Architect's choice of solid nylon, aluminum, and chrome-plated brass wire pulls, fastened from back with two screws. For sliding doors, provide recessed chrome-plated flush pulls. Provide 2 pulls for drawers more than 24 inches (600 mm) wide.
- D. Door Catches: Zinc-plated, nylon-roller spring catch. Provide 2 catches on doors more than 48 inches (1220 mm) high.
- E. Drawer Slides: BHMA A156.9, Type B05091.
 - 1. Heavy Duty (Grade 1HD-100 and Grade 1HD-200): Side mounted; full-overtravel-extension type; zinc-plated, steel ball-bearing slides.
 - 2. Box Drawer Slides: Grade 1HD-100, for drawers not more than 6 inches (150 mm) high and 24 inches (600 mm) wide.
 - 3. File Drawer Slides: Grade 1HD-200, for drawers more than 6 inches (150 mm) high or 24 inches (600 mm) wide.
- F. Drawer and Hinged Door Locks: Cylindrical (cam) type, 5-pin tumbler, brass with chrome-plated finish, and complying with BHMA A156.11, Grade 1.
 - 1. Provide a minimum of two keys per lock and six master keys.
 - 2. Provide locks where indicated.
- G. Adjustable Shelf Supports: 2-pin locking plastic shelf rests complying with BHMA A156.9, Type B04013 or Single-pin metal shelf rests complying with BHMA A156.9, Type B04013.
- H. Grommets for Cable Passage through Countertops: 2-inch (51-mm) OD, molded-plastic grommets and matching plastic caps with slot for wire passage. Architect's choice of manufacturer's colors.
- I. Closet Rods: #660SS (.087) steel tubing, 1 1/16" O.D. closet pole; Two (2) #734 polished chrome finish closet pole flange; both as manufactured by Knape & Vogt Manufacturing.
- J. Coat Hooks: Ives No. 581 single hook, cast aluminum, burnished finish.
- K. Mirrors: Provide 10" x 12" x 1/4" mirror, edges ground smooth and polished. Secure mirror to cabinet door by Knape & Vogt model #5198PLAS.
- L. Tote Trays: Provide 14-1/2" x 3-1/2" x 19", high-impact molded plastic with card holder on front; manufacturer's standard supports.
- M. Drying Shelves: Expanded metal shelf with perimeter reinforcement; zinc-coated.

2.7 COUNTERTOPS

- A. Countertops, General: Provide smooth, clean exposed tops and edges in uniform plane free of defects. Provide front and end overhang of 1 inch (25 mm) over base cabinets.
- B. Plastic-Laminate Tops: Plastic-laminate sheet, shop bonded to both sides of 1-1/8-inch (29-mm) plywood or particleboard. Sand surfaces to which plastic laminate is to be bonded.
 - 1. Plastic Laminate for Flat Tops: Grade HGS.
 - 2. Plastic Laminate for Backing: Grade BKL.
 - 3. At Administration areas, provide plastic-laminate edgings of the same material as top, on top edges of backsplashes and end splashes, and on ends of tops and splashes.

4. At other areas, provide 3-mm PVC edging on front edge of top, on top edges of backsplashes and end splashes, and on ends of tops and splashes.
 5. Use exterior plywood or exterior glue particleboard for countertops containing sinks.
- C. Solid-Surfacing-Material Tops: 1/2-inch- (12.7-mm-) thick, solid-surfacing material with front edge built up with same material.
1. Front: Radius edge with apron, 2 inches (51 mm) high with 3/8-inch (9.5-mm) radius.
- D. Epoxy Countertops and Misc. Elements:
1. Member Fabrication: Monolithic.
 - a. Member Configuration: Flat, 1 inch (25 mm) thick, with beveled edge and corners.
 - b. Member Construction: Uniform throughout full thickness.

2.8 MUSIC CASEWORK

- A. Provide music casework by Wenger Corporation.
1. Numbers provided on Drawings correspond with Wenger Corporation catalog.
 2. Reference Drawings for quantities and types.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances, location of framing and reinforcements, and other conditions affecting performance of manufactured wood casework.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 CASEWORK INSTALLATION

- A. Install level, plumb, and true; shim as required, using concealed shims. Where manufactured wood casework abuts other finished work, apply filler strips and scribe for accurate fit, with fasteners concealed where practical.
- B. Base Cabinets: Set cabinets straight, level, and plumb. Adjust subtops within 1/16 inch (1.5 mm) of a single plane. Fasten cabinets to masonry or framing, wood blocking, or reinforcements in walls and partitions with fasteners spaced 24 inches (600 mm) o.c. Bolt adjacent cabinets together with joints flush, tight, and uniform. Align similar adjoining doors and drawers to a tolerance of 1/16 inch (1.5 mm).
1. Where base cabinets are not installed adjacent to walls, fasten to floor at toe space with fasteners spaced 16 inches (400 mm) o.c. Secure sides of cabinets to floor, where they do not adjoin other cabinets, with not less than two fasteners.
- C. Wall Cabinets: Hang cabinets straight, level, and plumb. Adjust fronts and bottoms within 1/16 inch (1.5 mm) of a single plane. Fasten to hanging strips, masonry, or framing, blocking, or reinforcements in walls or partitions. Align similar adjoining doors to a tolerance of 1/16 inch (1.5 mm).

1. Fasten through back, near top and bottom, at ends, and not more than 16 inches (400 mm) o.c.
 2. Use toggle bolts at hollow masonry.
 3. Use expansion anchors at solid masonry.
- D. Install hardware uniformly and precisely. Set hinges snug and flat in mortises unless otherwise indicated. Adjust and align hardware so moving parts operate freely and contact points meet accurately. Allow for final adjustment after installation.
- E. Adjust casework and hardware so doors and drawers operate smoothly without warp or bind. Lubricate operating hardware as recommended by manufacturer.

3.3 INSTALLATION OF TOPS

- A. Field Jointing: Where possible make in the same manner as shop jointing, using dowels, splines, adhesives, and fasteners recommended by manufacturer. Prepare edges to be joined in shop so Project-site processing of top and edge surfaces is not required. Locate field joints where shown on Shop Drawings.
1. Secure field joints in plastic-laminate countertops with concealed clamping devices located within 6 inches (150 mm) of front and back edges and at intervals not exceeding 24 inches (600 mm). Tighten according to manufacturer's written instructions to exert a constant, heavy-clamping pressure at joints.
- B. Secure tops to cabinets with Z- or L-type fasteners or equivalent, using two or more fasteners at each front, end, and back.
- C. Abut top and edge surfaces in one true plane, with internal supports placed to prevent deflection.
- D. Secure backsplashes and end splashes to tops with concealed metal brackets at 16 inches (400 mm) o.c. and walls with adhesive.
- E. Seal junctures of tops, splashes, and walls with mildew-resistant silicone sealant or another permanently elastic sealing compound recommended by countertop material manufacturer.

3.4 INSTALLATION OF EPOXY RESIN ELEMENTS

- A. Comply with installation requirements in SEFA 2.3. Abut top and edge surfaces in one true plane with flush hairline joints and with internal supports placed to prevent deflection.
- B. Fastening:
1. Secure epoxy elements with epoxy cement, applied at each corner and along perimeter edges at not more than 48 inches (1200 mm) o.c.
 2. Where necessary to penetrate elements with fasteners, countersink heads approximately 1/8 inch (3 mm) and plug hole flush with material equal to countertop in chemical resistance, hardness, and appearance.
- C. Provide scribe moldings for closures at junctures of adjacent construction as recommended by manufacturer for materials involved. Match materials and finish to adjacent casework. Use chemical-resistant, permanently elastic sealing compound where recommended by manufacturer.
- D. Carefully dress joints smooth, remove surface scratches, and clean entire surface.

3.5 CLEANING AND PROTECTING

- A. Repair or remove and replace defective work as directed on completion of installation.
- B. Clean finished surfaces, touch up as required, and remove or refinish damaged or soiled areas to match original factory finish, as approved by Architect.
- C. Protection: Provide 6-mil (0.15-mm) plastic or other suitable water-resistant covering over countertop surfaces. Tape to underside of countertop at a minimum of 48 inches (1220 mm) o.c. Remove protection at Substantial Completion.

END OF SECTION 123200

SECTION 124813 - ENTRANCE FLOOR MATS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Surface-mounted entrance tiles (wall-to-wall in entry vestibules).

1.3 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Samples for Initial Selection: For each type of product indicated.
- C. Samples for Verification: For each type of product indicated.
 - 1. Floor Mat: 12-inch- (300-mm-) square, assembled sections of floor mat.
- D. Maintenance Data: For floor mats to include in maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Accessibility Requirements: Provide installed floor mats that comply with Section 4.5 in the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)" and Sections 302 and 303 in ICC A117.1.

1.5 PROJECT CONDITIONS

- A. Field Measurements: Indicate measurements on Shop Drawings.

1.6 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Entrance Tiles: Full-size units equal to 2 percent of amount installed for each size, color, and pattern indicated, but no fewer than 10 units.

PART 2 - PRODUCTS

2.1 ENTRANCE TILES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. C/S Group; Designstep (Powerpoint/Duration/Infinity)
 2. Interface Flooring; Deco Collection (DecoTuft/DecoRib/DecoDiagonal)
 3. Mats, Inc.; Diagonal Tile / AquaBlock Tile / Geo Tile
- B. Carpet-Type Tiles: Polypropylene carpet bonded to 1/8- to 1/4-inch- (3- to 6-mm-) thick, flexible vinyl backing to form mats 3/8 or 7/16 inch (9.5 or 11 mm) thick with nonraveling edges.
1. Colors, Textures, and Patterns: As selected by Architect from manufacturer's full range.
 2. Tile Size: Manufacturer's standard.

2.2 FABRICATION

- A. Floor Mats: Shop fabricate units to greatest extent possible in sizes indicated. Unless otherwise indicated, provide single unit for each mat installation; do not exceed manufacturer's recommended maximum sizes for units that are removed for maintenance and cleaning. Where joints in mats are necessary, space symmetrically and away from normal traffic lanes. Miter corner joints in framing elements with hairline joints or provide prefabricated corner units without joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and floor conditions for compliance with requirements for location, sizes, and other conditions affecting installation of floor mats and frames.
1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install surface-type units to comply with manufacturer's written instructions at locations indicated; coordinate with entrance locations and traffic patterns.

3.3 PROTECTION

- A. After completing frame installation and concrete work, provide temporary filler of plywood or fiberboard in recesses and cover frames with plywood protective flooring. Maintain protection until construction traffic has ended and Project is near Substantial Completion.

END OF SECTION 124813

SECTION 126100 - FIXED AUDIENCE SEATING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes fixed audience seating (by Alternate) with the following:
 - 1. Standard mounting.
 - 2. Upholstered chairs.
- B. Related Sections:
 - 1. Division 26 Sections for electrical service and connections for aisle lighting fixtures.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for fixed audience seating.] [Include electrical characteristics.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
 - 1. Seating Layout: Show seating layout, aisle widths, row-lettering and chair-numbering scheme, chair widths, and chair spacing in each row.
 - 2. Accessories: Show accessories, including locations of left- and right-hand tablet arms, electrical devices, accessibility provisions, and attachments to other work.
 - 3. Wiring Diagrams: For power, signal, and control wiring.
- C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:
 - 1. Molded Plastic: Manufacturer's standard-size unit, not less than 3 inches (75 mm) square.
 - 2. Baked-on Coating Finishes: Manufacturer's standard-size unit, not less than 3 inches (75 mm) square.
 - 3. Upholstery Fabric: Full width by 36-inch- (914-mm-) long section of fabric from dye lot to be used for the Work, with specified treatments applied. Show complete pattern repeat. Mark top and face of fabric.
 - 4. Row-Letter and Chair-Number Plates: Full-size units with letters and numbers marked.
 - 5. Exposed Fasteners: Full-size units of each type.
- D. Product Certificates: For each type of flame-retardant treatment of fabric, from manufacturer.
- E. Maintenance Data: For fixed audience seating to include in maintenance manuals. Include the following:

1. Methods for maintaining upholstery fabric.
2. Precautions for cleaning materials and methods that could be detrimental to seating finishes and performance.

F. Warranty: Sample of special warranty.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of seating required, including accessories and mounting components, from single source from single manufacturer.

1. Upholstery Fabric: Obtain fabric of a single dye lot for each color and pattern of fabric required.

B. Fire-Test-Response Characteristics of Upholstered Chairs:

1. Fabric: Class 1 according to DOC CS 191 and 16 CFR 1610.61, tested according to California Technical Bulletin 117.
2. Padding: Comply with California Technical Bulletin 117.
3. Full-Scale Fire Test: Comply with California Technical Bulletin 133.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

D. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.

1. Build mockups for the following types of fixed audience seating including fabric, finishes, and accessories:
 - a. Size: Two typical seats or a typical two-seat unit.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install seating until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above ceilings is complete, and temporary or permanent HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

B. Field Measurements: Verify actual dimensions of seating layout and construction contiguous with seating by field measurements before fabrication.

1.6 COORDINATION

A. Coordinate layout and installation of electrical wiring and devices with seating layout to ensure that floor junction boxes for electrical devices are accurately located to allow connection without exposed conduit.

1. Coordinate wiring and power receptacles installed in seating with requirements in Division 26 Sections.
 2. Coordinate wiring and data ports installed in seating with requirements in Division 27 Sections.
- B. Coordinate layout and installation of diffuser pedestals with HVAC work and with properties of diffuser pedestals to ensure alignment, proper air diffusion, and correct seat locations.

1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of fixed audience seating that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
 - a. Structural failures including standards, beams, and pedestals.
 - b. Faulty operation of electrical components.
 - c. Wear and deterioration of fabric and stitching beyond normal use.
 - d. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.
 2. Warranty Periods: As follows, from date of Substantial Completion.
 - a. Structural: Five years.
 - b. Operating Mechanisms: Three years.
 - c. Electrical Components: Three] years.
 - d. Plastic, Wood, and Paint Components: Two years.

1.8 EXTRA MATERIALS

- A. Furnish extra materials from the same production run that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Chair Seats and Backs: Furnish a quantity of full-size units equal to [5] percent of amount installed for each type and size of chair seat and back.

PART 2 - PRODUCTS

2.1 MATERIALS AND FINISHES

- A. Steel: ASTM A 36/A 36M plates, shapes, and bars; ASTM A 513 mechanical tubing; ASTM A 1008/A 1008M cold-rolled sheet; and ASTM A 1011 hot-rolled sheet and strip.
- B. Metal Finish: Finish exposed metal parts with manufacturer's standard minimum 1.5-mil- (0.04-mm-) thick, polyester baked-on powder coating.
1. Color: As selected by Architect from manufacturer's full range.
- C. Fabric: Manufacturer's standard 100 percent nylon with flame-retardant treatment.
1. Weight: 20 oz./linear yd. (0.62 kg/linear m).

2. Color and Pattern: As selected by Architect from manufacturer's full range.
- D. Upholstery Padding: Flexible, cellular, molded or slab polyurethane foam.
- E. Molded Plastic: High-density polyethylene or polypropylene, blow or injection molded, with smooth or textured surface that is mar and dent resistant.
1. Provide with UV inhibitors to retard fading where exposed to sunlight.
 2. Color and Texture: As selected by Architect from manufacturer's full range.

2.2 FIXED AUDIENCE SEATING

- A. Fixed Audience Seating: Interior assembly-space seating in permanent arrangement as shown on Drawings.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. American Seating Company.
 - b. Hussey Seating Company.
 - c. Irwin Seating Company.
- B. Chair Mounting Standards: Floor attached of the following material:
1. Steel: One-piece heavy-tube or reinforced sheet with welded mounting plate and welded connections for seat pivots, backs, armrests, and end panels.
- C. Fabric Upholstered Chairs:
1. Backs:
 - a. Padding Thickness: 1-1/4 inches (32 mm).
 - b. Rear Panel: Molded plastic.
 - c. Top Corners: Rounded.
 - d. Upholstery Options: Decorative stitching.
 2. Seats: One part, fully upholstered and as follows:
 - a. Padding Thickness: Minimum 3 inches (76 mm) at front and rear edge.
- D. Chair Width: Single width chair in each row, with minimum chair width of 22 inches (559 mm) from center to center of armrests.
- E. Back Height: Standard-style backs, 32-1/2 inches (826 mm) high.
- F. Back Pitch: Fixed.
- G. Aisle Lighting Fixtures: Manufacturer's standard round fixtures.
1. Bulb: [LED] [Incandescent].
 2. Power: [24] [120] V.
 3. For low-voltage lighting, provide manufacturer's voltage-reduction device housed in safety enclosure equipped with fuses, terminal blocks, and safety disconnect.

H. Row-Letter and Chair-Number Plates: Manufacturer's standard.

1. Material: Bronze with black embossed characters.
2. Attachment: Manufacturer's standard method.

2.3 FABRICATION

- A. Floor Attachments: Fabricate to conform to floor slope, if any, so that standards and pedestals are plumb and chairs are maintained at same angular relationship to vertical throughout Project.
- B. Upholstery: Fabricate fabric-covered cushions with molded padding beneath fabric and with fabric covering free of welts, creases, stretch lines, and wrinkles. For each upholstered component, install pile and pattern run in a consistent direction.
- C. Upholstered Chairs: Fabricate as follows:
1. Two-Part Upholstered Back: In length required to protect seat in raised position, with padded cushion glued to a curved steel, plywood, or molded-plastic support panel covered with easily replaceable fabric, and with curved rear shell that fully encloses upholstery edges.
 2. One-Part Seats: Double-wall plastic shells padded and fully upholstered.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine floors, risers, and other adjacent work and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
- B. Examine locations of electrical connections.
- C. Examine locations of HVAC supply ducts.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install seating in locations indicated and fastened securely to substrates according to manufacturer's written installation instructions.
1. Use installation methods and fasteners that produce fixed audience seating assemblies with individual chairs capable of supporting an evenly distributed 600-lb (272-kg) static load without failure or other conditions that might impair the chair's usefulness.
 2. Install standards and pedestals plumb.
- B. Install seating with chair end standards aligned from first to last row and with backs and seats varied in width and spacing to optimize sightlines.
- C. Install riser-mounted attachments to maintain uniform chair heights above floor.
- D. Install chairs in curved rows at a smooth radius.

- E. Install seating so moving components operate smoothly and quietly.
- F. Install wiring conductors and cables concealed in components of seating and accessible for servicing.

3.3 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
 - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- B. Prepare test and inspection reports.

3.4 ADJUSTING

- A. Adjust chair backs so that they are aligned with each other in uniformly curved rows.
- B. Verify that all components and devices are operating properly.
- C. Verify that seating returns to correct at-rest position.
- D. Repair minor abrasions and imperfections in finishes with coating that matches factory-applied finish.
- E. Replace upholstery fabric damaged during installation.

END OF SECTION 126100

SECTION 126600 - TELESCOPING STANDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Wall-attached telescoping stands.

1.3 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for telescoping stands.
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
 - 1. Include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
 - 2. Include wiring diagrams for electrically operated units.
- C. Samples for Initial Selection: For each type of exposed finish required.
- D. Qualification Data: For Installer.
- E. Operation and Maintenance Data: For telescoping stands to include in emergency, operation, and maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Manufacturer's Engineering Responsibility: Preparation of data for telescoping stands, including Shop Drawings, and comprehensive engineering analysis by a qualified professional engineer.
- C. Safety Standard: Provide telescoping stands that comply with requirements in ICC 300.
- D. Welding: Qualify procedures and personnel according to AWS D1.1 "Structural Welding Code - Steel" and AWS D1.3 "Structural Welding Code - Sheet Steel."
- E. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

- F. Accessibility Requirements: Provide telescoping stands that comply with requirements in the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)".
- G. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

1.5 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of walls, columns, and other construction that will interface with telescoping stands by field measurements before fabrication and indicate measurements on Shop Drawings.
 - 1. Gymnasium floor to Mezzanine floor height are existing and, as such, manufacturer must adjust row-to-row height to correspond.
 - 2. Openings through Mezzanine balcony railing is existing and, as such, manufacturer must adjust aisle spacing to correspond.
 - 3. Bidders shall field-verify these conditions prior to Bidding. No adjustment to cost following Contract award will be accepted for adjustment of floor-to-floor height or aisle spacing.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:
 - 1. Hussey Seating Company.
 - 2. Interkal LLC.

2.2 MATERIALS

- A. Wood:
 - 1. Plywood: APA grade trademarked, DOC PS 1.
- B. Steel:
 - 1. Structural Steel Shapes, Plates, and Bars: ASTM A 36/A 36M.
 - 2. Galvanized Steel Sheet: ASTM A 653/A 653M, G90 (Z275) coating designation.
 - 3. Uncoated Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold-rolled commercial steel), or ASTM A 1011/A 1011M, Designation CS (hot-rolled commercial steel).
 - 4. Tubing: ASTM A 500, cold formed; ASTM A 501, hot formed; or ASTM A 513, mechanical.
- C. Extruded Aluminum: ASTM B 221 (ASTM B 221M), alloy as standard for manufacturer.
- D. Polyethylene Plastic: High-density polyethylene; molded, color-pigmented, textured, impact-resistant, structural formulation.

2.3 TELESCOPING STANDS

TELESCOPING STANDS

- A. Description: Operable systems of multiple-tiered seating on interconnected folding platforms that close, without being dismantled, into a nested stack for storing or moving. Stand units permit opening and closing of adjacent rows, allow individual and collective rows to be locked open for use, and close with vertical faces of upper skirts on the same vertical plane.
- B. Wall-Attached Telescoping Stands: Rear of understructure permanently attaches to wall construction.
1. Operation: Automatic, friction-type integral power unit.
 - a. Limit Switches: Automatically stop integral power system when telescoping stands reach fully opened or closed positions.
 - b. Motion Monitor: Flashing light with self-contained warning horn, rated at 85 decibels (dB) at 10 feet (3 m), mounted under telescoping seating for audio and visual warning during integral power operation.
 - c. Transformer: As required to coordinate current characteristics of motor and control station with building electrical system.
- C. Row Spacing: As indicated on Drawings.
- D. Row Rise: As indicated on Drawings.
- E. Elevated Front Row: In height indicated on Drawings.
- F. Bench Seats and Skirts:
1. Material: Molded polyethylene plastic with contour seat surface.
 - a. Colors: As selected by Architect from manufacturer's standard.
 2. Bench Height: Not less than 16 inches (406.4 mm) or more than 18 inches (457.2 mm).
 3. Bench Depth: 12 inches (304.8 mm).
- G. Wheelchair-Accessible Seating: Locate cutouts to provide wheelchair-accessible seating at locations indicated on Drawings.
1. Equip tiers adjacent to wheelchair-accessible seating with front rails as required by referenced safety standard.
 2. Equip cutouts with full-width front closure panels that match decking construction and finish and that extend from underside of tiers adjacent to cutouts to 1-1/2 inches (38.1 mm) from finished floor.
- H. Deck: Plywood.
1. Finish: Polyethylene textured overlay bonded to substrate with exterior glue.
 2. Color: As selected by Architect from manufacturer's standard colors.
- I. Risers: Steel sheet with manufacturer's standard rust-inhibiting coating or hot-dip galvanized finish.
- J. Rails: Structural steel, finished with manufacturer's standard powder coat system.
1. Color: Black.
- K. Understructure: Structural steel.
1. Finish: Manufacturer's standard rust-inhibiting finish.

2. Color: Manufacturer's standard.
- L. Support Column Wheels: Nonmarring, soft, rubber-face wheel assembly under each support column.
1. Include wheels of size, number, and design required to support stands and operate smoothly without damaging the flooring surface, but not less than four per column or less than 3-1/2 inches (88.9 mm) in diameter and 1 inch (25.4 mm) wide.
- M. Aisle Closures: Manufacturer's standard that produce flush vertical face at aisles when system is stored.
- N. Fasteners: Vibration proof, in manufacturer's standard size and material.
- O. Accessories:
1. Slip-resistant, abrasive tread nosings at vertical aisles.
 2. Intermediate aisle steps, fully enclosed, at each vertical aisle.
 3. Transitional top step, fully enclosed, at each vertical aisle where last row of telescoping stands is adjacent to a cross aisle.
 4. Folding, nonremovable mid-aisle handrails located at centerline of each vertical aisle with seating on both sides.
 5. End rails (guards) that are telescoping and self-storing.
 6. Rear fillers including supports for closing openings between top row and rear wall of adjoining construction.
 7. Gap fillers for closing openings between stand units or between stand units and adjoining construction.
 8. End panels covering exposed ends of stands in stored position.
 9. Back panels covering rear of freestanding units. Panels extend full height and width of unit.
 10. Removable scorer's table that attaches to mounting sockets installed in telescoping stand unit.

2.4 FABRICATION

- A. Fabricate understructure from structural steel members in size, spacing, and form required to support design loads specified in referenced safety standard.
- B. Weld understructure to comply with applicable AWS standards.
- C. Round corners and edges of components and exposed fasteners to reduce snagging and pinching hazards.
- D. Form exposed sheet metal with flat, flush surfaces, level and true in line, and without cracking and grain separation.
- E. Seating Supports: Fabricate supports to withstand, without damage to components, the forces imposed by use of stands without failure or other conditions that might impair the usefulness of seating units.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas where telescoping stands are to be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install telescoping stands to comply with referenced safety standard and manufacturer's written instructions.

3.3 ADJUSTING AND CLEANING

- A. On completion of installation, lubricate, test, and adjust each telescoping stand unit so that it operates according to manufacturer's written operating instructions.
- B. Clean installed telescoping stands on exposed and semiexposed surfaces. Touch up shop-applied finishes or replace components as required to restore damaged or soiled areas.

3.4 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain telescoping stands. Refer to Division 01 Section "Demonstration and Training."

END OF SECTION 126600

SECTION 129300 - SITE FURNISHINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Seating.
- B. Related Sections include the following:
 - 1. Division 03 Section "Cast-in-Place Concrete" for installation of pipe sleeves cast in concrete footings.
 - 2. Division 31 Section "Earth Moving" for excavation for installation of concrete footings.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For units with factory-applied color finishes.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Steel and Iron: Free of surface blemishes and complying with the following:
 - 1. Plates, Shapes, and Bars: ASTM A 36/A 36M.
 - 2. Steel Pipe: Standard-weight steel pipe complying with ASTM A 53, or electric-resistance-welded pipe complying with ASTM A 135.
 - 3. Sheet: Commercial steel sheet complying with ASTM A 1011/A 1011M.
- B. Anchors, Fasteners, Fittings, and Hardware: Manufacturer's standard, corrosion-resistant-coated or noncorrodible materials; commercial quality, tamperproof, vandal and theft resistant, concealed, recessed, and capped or plugged.
- C. Nonshrink, Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107; recommended in writing by manufacturer, for exterior applications.
- D. Erosion-Resistant Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with potable water at Project site to create pourable anchoring,

patching, and grouting compound; resistant to erosion from water exposure without needing protection by a sealer or waterproof coating; recommended in writing by manufacturer, for exterior applications.

- E. Galvanizing: Where indicated for steel and iron components, provide the following protective zinc coating applied to components after fabrication:
1. Hot-Dip Galvanizing: According to ASTM A 123/A 123M, ASTM A 153/A 153M, or ASTM A 924/A 924M.

2.2 SEATING

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- C. Basis-of-Design Product: Subject to compliance with requirements, provide Landscape Forms; Presidio, or a comparable product as approved by Architect prior to bidding.
- D. Frame: Steel.
- E. Seat:
1. Material:
 - a. Painted Steel: Edge framed, evenly spaced, parallel rods or rolled bars.
 2. Seat Height: As indicated.
 3. Seat Surface Shape: Contoured or dished.
 4. Overall Height: As indicated.
 5. Overall Width: As indicated.
 6. Overall Depth: As indicated.
 7. Arms: None.
 8. Backs: None.
 9. Seating Configuration: Multiple units, as indicated.
 - a. Straight shape.
- F. Steel Finish: Powder-coated.
1. Color: As selected by Architect from manufacturer's full range.

2.3 FABRICATION

- A. Metal Components: Form to required shapes and sizes with true, consistent curves, lines, and angles. Separate metals from dissimilar materials to prevent electrolytic action.
- B. Welded Connections: Weld connections continuously. Weld solid members with full-length, full-penetration welds and hollow members with full-circumference welds. At exposed connections, finish surfaces smooth and blended so no roughness or unevenness shows after finishing and welded surface matches contours of adjoining surfaces.

- C. Pipes and Tubes: Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cylindrical cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of handrail and railing components.
- D. Exposed Surfaces: Polished, sanded, or otherwise finished; all surfaces smooth, free of burrs, barbs, splinters, and sharpness; all edges and ends rolled, rounded, or capped.
- E. Factory Assembly: Assemble components in the factory to greatest extent possible to minimize field assembly. Clearly mark units for assembly in the field.

2.4 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.5 STEEL AND GALVANIZED STEEL FINISHES

- A. Baked-Enamel, Powder-Coat Finish: Manufacturer's standard, baked, polyester, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, and other conditions affecting performance.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of site furnishings where required.
- B. Unless otherwise indicated, install site furnishings after landscaping and paving have been completed.
- C. Install site furnishings level, plumb, true, and securely anchored and positioned at locations indicated on Drawings.
- D. Post Setting: Set cast-in support posts in concrete footing with smooth top, shaped to shed water. Protect portion of posts above footing from concrete splatter. Verify that posts are set plumb or at correct angle and are aligned and at correct height and spacing. Hold posts in position during placement and finishing operations until concrete is sufficiently cured.

- E. Posts Set into Voids in Concrete: Form or core-drill holes for installing posts in concrete to depth recommended in writing by manufacturer of site furnishings and 3/4 inch (19 mm) larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with nonshrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions, with top smoothed and shaped to shed water.

3.3 CLEANING

- A. After completing site furnishing installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component.

END OF SECTION 129300