

SECTION 10 51 13

METAL LOCKERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Knocked down lockers.
 - 2.
 - 3. Locker benches.

1.2 ACTION SUBMITTALS

- A. Product Data: Technical data for each type of product including construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of metal locker and bench.
- B. Shop Drawings: Submit plans, elevations, sections, and attachment details.
 - 1. Indicate locker types, sizes, configurations, installation details, layout of groups of lockers, fillers, trim, base, accessories, numbering sequence, color and finish, combination listing for combination locks with their respective locker numbers.
 - 2. Show all locker trim, accessories and related components.
 - 3. Include locker identification system and numbering sequence.
- C. Samples: Submit samples in manufacturer's standard size:
 - 1. Lockers and equipment.
 - 2. Locker benches.

1.3 CLOSEOUT SUBMITTALS

- A. Maintenance Data: Data for adjusting, repairing, and replacing locker doors and latching mechanisms to include in maintenance manuals.

1.4 QUALITY ASSURANCE

- A. Preinstallation Conference: Conduct conference at site.
- B. Source Limitations: Obtain metal lockers, locker benches, and accessories from single source from single locker manufacturer.
 - 1. Obtain locks from single lock manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver metal lockers until receiving or installation space is clean, dry, and ready for installation.
- B. Deliver final combination control charts to Owner by registered mail or overnight package service.

1.6 FIELD CONDITIONS

- A. Field Measurements: Verify actual dimensions of recessed openings by field measurements before fabrication.

1.7 COORDINATION

- A. Coordinate sizes and locations of bases for metal lockers.
- B. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and related units of work to ensure that metal lockers can be supported and installed as indicated.

1.8 WARRANTY

- A. Warranty: Written warranty signed by manufacturer in which manufacturer agrees to repair or replace components of metal lockers that fail in materials or workmanship, excluding finish, within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures.
 - b. Faulty operation of latches and other door hardware.
 - 2. Damage from deliberate destruction and vandalism is excluded.
 - 3. Warranty Period for Knocked-Down Metal Lockers: Two years from date of Substantial Completion.
 - 4.

1.1 EXTRA MATERIAL

- A. Furnish extra materials that match products installed and packaged with protective covering for storage and identified with labels describing contents.
 - 1. The following metal locker hardware items equal to 10 percent of amount installed for each type and finish installed, but no fewer than five units:
 - a. Locks.
 - b. Blank identification plates.
 - c. Hooks.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Accessibility Standard: For lockers indicated to be accessible, comply with applicable provisions in the USDOJ 2010 ADA Standards for Accessible Design the ABA standards of the Federal agency having jurisdiction and ICC A117.1.

2.2 KNOCKED DOWN LOCKERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. AJW Architectural Products.
 2. Art Metal Products.
 3. ASI Storage Solutions; ASI Group.
 4. General Storage Systems Ltd.
 5. Hadrian Manufacturing Inc.
 6. List Industries Inc.
 7. Lyon Workspace Products, LLC.
 8. Olympus Lockers & Storage Products, Inc.
 9. Penco Products, Inc.
 10. Republic Storage Systems, LLC.
 11. Shanahan's Manufacturing Limited.
 12. WEC Manufacturing LLC.
- B. Doors: One piece; fabricated from 0.060 inch (1.52 mm) nominal thickness steel sheet; formed into channel shape with double bend at vertical edges and with right angle single bend at horizontal edges.
1. Reinforcement: Reinforcing angles, channels, or stiffeners for doors more than 15 inches (381 mm) wide; welded to inner face of doors.
 2. Stiffeners: Full height stiffener fabricated from 0.048 inch (1.21 mm) nominal thickness steel sheet; welded to inner face of doors.
 3. Sound Dampening Panels: Designed to stiffen doors and reduce sound levels when doors are closed, of die formed metal with full perimeter flange and sound dampening material; welded to inner face of doors.
 4. Door Style: Vented panel as follows:
 - a. Louvered Vents: No fewer than six louver openings at top and bottom for single tier three louver openings at top and bottom for double tier lockers.
 - b. Security Vents: Stamped horizontal or vertical.
- C. Body: Assembled by riveting or bolting body components together. Fabricate from unperforated steel sheet with thicknesses as follows:
1. Tops, Bottoms, and Intermediate Dividers: 0.024 inch (0.61 mm) nominal thickness, with single bend at sides.

2. Backs and Sides: 0.024 inch (0.61 mm) nominal thickness, with full height, double flanged connections.
 3. Shelves: 0.024 inch (0.61 mm) nominal thickness, with double bend at front and single bend at sides and back.
- D. Frames: Channel formed; fabricated from 0.060 inch (1.52 mm) nominal thickness steel sheet; lapped and factory welded at corners; with top and bottom main frames factory welded into vertical main frames. Form continuous, integral, full height door strikes on vertical main frames.
1. Cross Frames between Tiers: Channel formed and fabricated from same material as main frames; welded to vertical main frames.
 2. Frame Vents: Fabricate face frames with vents.
- E. Hinges: Welded to door and attached to door frame with no fewer than two factory installed rivets per hinge that are completely concealed and tamper resistant when door is closed; fabricated to swing 180 degrees.
1. Knuckle Hinges: Steel, full loop, five or seven knuckles, tight pin; minimum 2 inches (51 mm) high. Provide no fewer than three hinges for each door more than 42 inches (1067 mm) high.
 2. Hinges: Steel, knuckle type.
 - a. Doors over 48 inches (1.066 m) high: Three 2 inch (51 mm) high five-knuckle hinges.
 - b. Doors over 24 inches (1.066 m) wide: Four 2 inch (51 mm) high five-knuckle hinges.
 - c. All other doors: Two 2 inch (51 mm) high five-knuckle hinges.
- F. Recessed Door Handle and Latch: Stainless steel cup with integral door pull, recessed so locking device does not protrude beyond door face; pry and vandal resistant.
1. Multipoint Latching: Finger lift latch control designed for use with built-in combination locks, built-in key locks, or padlocks; positive automatic latching and prelocking.
 - a. Latch Hooks: Equip doors 48 inches (1219 mm) and higher with three latch hooks and doors less than 48 inches (1219 mm) high with two latch hooks; fabricated from 0.105 inch (2.66 mm) nominal thickness steel sheet; welded or riveted to full height door strikes; with resilient silencer on each latch hook.
 - b. Latching Mechanism: Rattle free latching mechanism and moving components isolated to prevent metal to metal contact, and incorporating a prelocking device that allows locker door to be locked while door is open and then closed without unlocking or damaging lock or latching mechanism.
- G. Door Handle and Latch for Lockers: Stainless steel strike plate with integral pull; with steel padlock loop that projects through metal locker door.
- H. Locks: Combination padlocks.
- I. Identification Plates: Etched, embossed, or stamped aluminum plates, with numbers and letters at least 3/8 inch (9 mm) high.

- J. Hooks: Ball pointed hooks, aluminum or steel; zinc plated.
- K. Coat Rods: 3/4 inch (19 mm) diameter steel tube or rod, nickel plated.
- L. Legs: 6 inches (152 mm) high; formed by extending vertical frame members, or fabricated from 0.075 inch (1.90 mm) nominal thickness steel sheet; welded to bottom of locker.
 - 1. Closed Front and End Bases: Fabricated from 0.036 inch (0.91 mm) nominal thickness steel sheet.
- M. Continuous Zee Base: Fabricated from 0.060 inch (1.52 mm) nominal thickness steel sheet.
 - 1. Height: 4 inches (102 mm).
- N. Continuous Sloping Tops: Fabricated from 0.036 inch (0.91 mm) nominal thickness steel sheet.
 - 1. Closures: Vertical end type.
 - 2. Sloping top corner fillers, mitered.
- O. Individual Sloping Tops: Fabricated from 0.024 inch (0.61 mm) nominal thickness steel sheet.
- P. Recess Trim: Fabricated from 0.048 inch (1.21 mm) nominal thickness steel sheet.
- Q. Filler Panels: Fabricated from 0.036 inch (0.91-mm) nominal thickness steel sheet.
- R. Boxed End Panels: Fabricated from 0.060 inch (1.52 mm) nominal thickness steel sheet.
- S. Finished End Panels: Fabricated from 0.024 inch (0.61 mm) nominal thickness steel sheet to cover unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed metal lockers; finished to match lockers.
- T. Center Dividers: Fabricated from 0.024 inch (0.61 mm) nominal thickness steel sheet.
- U. Materials:
 - 1. Cold Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B, suitable for exposed applications.
 - 2. Metallic Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with A60 (ZF180) zinc iron, alloy (galvannealed) coating designation.
- V. Finish: Baked enamel or powder coat.
 - 1. Color: Selected by Architect.

2.3 LOCKS

- A. Combination Padlock: Key controlled, three number dialing combination locks; capable of five combination changes. Provide one lock per locker door.

2.4 LOCKER BENCHES

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. AJW Architectural Products.
 - 2. Art Metal Products.
 - 3. ASI Storage Solutions; ASI Group.
 - 4. Hadrian Manufacturing Inc.
 - 5. List Industries Inc.
 - 6. Lyon Workspace Products, LLC.
 - 7. Penco Products, Inc.
 - 8. Shanahan's Manufacturing Limited.
- B. Provide bench units with overall assembly height of 17-1/2 inches (445 mm).
- C. Bench Tops: One piece units, with rounded corners and edges.
 - 1. Size: provide 20 inch to 24 inch (508 mm to 610 mm) wide tops where accessible benches are indicated unless otherwise indicated on the Drawings.
 - 2. Laminated clear hardwood with one coat of clear sealer on all surfaces and one coat of clear lacquer on top and sides.
- D. Fixed Bench Pedestals: Supports, with predrilled fastener holes for attaching bench top and anchoring to floor, complete with fasteners and anchors:
 - 1. Tubular Steel: 1-1/2-inch- (38-mm-) diameter steel tubing threaded on both ends, with standard pipe flange at top and bell-shaped cast-iron base; with baked-enamel or powder-coat finish; anchored with exposed fasteners.
 - a. Color: Selected by Architect.
- E. Movable Bench Pedestals: Standard supports with predrilled fastener holes for attaching bench top, complete with fasteners:
 - 1. Stainless Steel: 1/8 inch thick by 3 inch wide (3 mm thick by 76 mm wide) channel or 1/4 inch thick by 3 inch wide (6 mm thick by 76 mm wide) bar stock, shaped into trapezoidal form; with nonskid pads at bottom.
 - a. Finish: No. 4B.
- F. Materials:
 - 1. Stainless Steel: ASTM A 666, Type 304.
 - 2. Extruded Aluminum: ASTM B 221 (ASTM B 221M), alloy and temper recommended by aluminum producer and manufacturer for type of use and finish indicated.
 - 3. Steel Tube: ASTM A 500/A 500 M, cold rolled.

2.5 FABRICATION

- A. Fabricate metal lockers square, rigid, without warp, and with metal faces flat and free of dents or distortion. Make exposed metal edges safe to touch and free of sharp edges and burrs.
 - 1. Form body panels, doors, shelves, and accessories from one piece steel sheet unless otherwise indicated.
 - 2. Provide fasteners, filler plates, supports, clips, and closures as necessary for complete installation.
- B. Fabricate each metal locker with an individual door and frame; individual top, bottom, and back; and common intermediate uprights separating compartments.
- C. Equipment: Provide each locker with an identification plate:
 - 1. Single Tier Units: Shelf, one double prong ceiling hook, and two single prong wall hooks.
 - 2. Double Tier Units: One double prong ceiling hook and two single prong wall hooks.
 - 3. Triple Tier Units: One double prong ceiling hook.
 - 4. Coat Rods: For each compartment of each single tier and double tier locker.
- D. Knocked Down Construction: Fabricate metal lockers by preassembling at plant prior to shipping, using nuts, bolts, screws, or rivets.
- E. Accessible Lockers: Fabricate as follows:
 - 1. Locate bottom shelf no lower than 15 inches (381 mm) above the floor.
 - 2. Where hooks, coat rods, or additional shelves are provided, locate no higher than 48 inches (1219 mm) above the floor.
- F. Continuous Zee Base: Fabricated in lengths as long as practical to enclose base and base ends; finished to match lockers.
- G. Continuous Sloping Tops: Fabricated in lengths as long as practical, without visible fasteners at splice locations; finished to match lockers.
 - 1. Sloping top corner fillers, mitered.
- H. Recess Trim: Fabricated with minimum 2-1/2 inch (64 mm) face width and in lengths as long as practical; finished to match lockers.
- I. Filler Panels: Fabricated in an unequal leg angle shape; finished to match lockers. Provide slip joint filler angle formed to receive filler panel.
- J. Finished End Panels: Fabricated to conceal unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed metal lockers; finished to match lockers.
 - 1. Provide one piece panels for double row (back to back) locker ends.
- K. Center Dividers: Full depth, vertical partitions between bottom and shelf; finished to match lockers.

2.6 ACCESSORIES

- A. Fasteners: Zinc or nickel plated steel, slotless type, exposed bolt heads; with self locking nuts or lock washers for nuts on moving parts.
- B. Anchors: Material, type, and size required for secure anchorage to each substrate.
 - 1. Provide hot dip galvanized anchors and inserts on inside face of exterior walls for corrosion resistance.
 - 2. Provide toothed steel or lead expansion sleeves for drilled in place anchors.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine walls and floors or support bases for compliance with requirements for installation tolerances and other conditions affecting performance of the work.
- B. Prepare written report listing conditions detrimental to performance of the work.
- C. Proceed with installation after correcting unsatisfactory conditions.

3.2 INSTALLATION

- A. Install lockers level, plumb, and true; shim as required, using concealed shims.
 - 1. Anchor locker runs at ends and at intervals recommended by manufacturer, but not more than 36 inches (910 mm) o.c. Using concealed fasteners, install anchors through backup reinforcing plates, channels, or blocking as required to prevent metal distortion.
 - 2. Anchor single rows of metal lockers to walls near top and bottom of lockers.
 - 3. Anchor back to back metal lockers together .
- B. Knocked Down Lockers: Assemble with recommended fasteners, with no exposed fasteners on door faces or face frames.
- C. Equipment:
 - 1. Attach hooks with at least two fasteners.
 - 2. Attach door locks and plates on doors using security type fasteners.
 - 3. Identification Plates: Identify metal lockers with identification numbers confirmed with the Owner.
 - a. Attach plates to each locker door, near top, centered, with at least two aluminum rivets.
- D. Trim: Fit exposed connections of trim, fillers, and closures accurately together to form tight, hairline joints, with concealed fasteners and splice plates.
 - 1. Attach recess trim to recessed metal lockers with concealed clips.

2. Attach filler panels with concealed fasteners. Locate filler panels where indicated on Drawings.
 3. Attach sloping top units to metal lockers, with closures at exposed ends.
 4. Attach finished end panels using fasteners only at perimeter to conceal exposed ends of nonrecessed metal lockers.
- E. Fixed Benches: Provide no fewer than two pedestals for each bench, uniformly spaced not more than 72 inches (1830 mm) apart. Securely fasten tops of pedestals to undersides of bench tops, and anchor bases to floor.
- F. Movable Benches: Place benches in locations indicated on Drawings.

3.3 ADJUSTING

- A. Clean, lubricate, and adjust hardware. Adjust doors and latches to operate easily without binding.

3.4 PROTECTION

- A. Protect metal lockers from damage, abuse, dust, dirt, stain, or paint. Do not permit use during construction.
- B. Touch up marred finishes, or replace metal lockers that cannot be restored to factory finished appearance. Use only materials and procedures recommended or furnished by locker manufacturer.

END OF SECTION

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