



**SECTION 10 51 13  
METAL LOCKERS**

**PART 1 – GENERAL**

**1.01 SECTION INCLUDES**

- A. Standard Duty Knocked Down Lockers
- B. Locker benches.

**1.02 REFERENCES**

- A. ADAAG - Americans with Disabilities Act, Accessibility Guidelines.

**1.03 SUBMITTALS**

- A. Submit under provisions of Section 01 33 00.
- B. Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- C. Shop Drawings: Show the following:
  - 1. Dimensioned drawings including plans, elevations, and sections to show locker locations and interfaces with adjacent substrates.
  - 2. Details of assembly, erection, anchorage and clearance requirements.
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and finishes.

**1.04 DELIVERY, STORAGE, AND HANDLING**

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect locker finish and adjacent surfaces from damage.

**PART 2 - PRODUCTS**

**2.01 MANUFACTURERS**

- A. Acceptable Manufacturer: Penco Products, Inc., which is located at: 1820 Stonehenge Drive, Greenville, NC 27858; Tel: 800-562-1000; Fax: 800-248-1555; Email: [general@pencoproducts.com](mailto:general@pencoproducts.com); Web: [www.pencoproducts.com](http://www.pencoproducts.com)
- B. Lockers shall be GREENGUARD Gold Certified by UL Environment through the GREENGUARD Certification Program.

**2.02 MATERIALS**

- A. Steel: Prime grade mild cold-rolled sheet steel free from surface imperfection, capable of taking a high-grade enamel finish and in compliance with ASTM A1008.

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- B. Steel: Sheet steel components shall be fabricated using zinc-coated steel free from surface imperfection, capable of taking a high-grade enamel finish and in compliance with ASTM A879.
- C. Bolts and Nuts: Zinc plated truss fin head bolts and hex nuts.
- D. Provide only metal lockers fabricated in the United States by a single domestic manufacturer.

## 2.03 STANDARD DUTY LOCKERS

- A. Standard Duty Lockers:
  - 1. Acceptable Product: Penco Vanguard, knock-down lockers.
  - 2. Tops, Bottoms, Backs, Sides, and Shelves: 24 gauge sheet steel.
  - 3. Doors 12 inches or more (305 mm) wide or 20 inches (760 mm) high: 16 gauge sheet steel.
  - 4. Doors less than 12 inches (305 mm) wide: 18 gauge sheet steel.
  - 5. Legs: 6 inches (150 mm) high (standard).
  - 6. No legs (optional).
- B. Locker Body: Steel specially formed for added strength and rigidity and to ensure tight joints at fastening points.
  - 1. Tops and bottoms with three sides formed 90 degrees, the front offset formed to be flush with horizontal frame member.
  - 2. Shelves with four sides formed to 90 degrees, front edge having a second bend.
  - 3. Hole spacing in locker body construction: Not exceeding 9 inches (225 mm).
  - 4. Form door frame members to a channel shape, not less than 16 gauge steel.
  - 5. Provide vertical door frame members with additional 3/8 inch (9.5 mm) flange as a continuous door strike.
  - 6. Mortise and tenon intermembering parts; electrically weld together in a rigid assembly capable of resisting strains.
  - 7. Securely weld cross frame members of channel shapes to vertical framing members to ensure rigidity, including intermediate cross frame on double and triple tier lockers.
  - 8. Optional factory assembly of locker bodies using rivets.
  - 9. Center partitions: 24 gauge steel vertical partitions, full depth between bottom and shelf.
- C. Locker Doors: One piece sheet steel.
  - 1. Multi-Point Latch Doors: Full channel formation of adequate depth to fully conceal lock bar on lock side, channel formation on hinge side, right angle formations across top and bottom, with holes for attaching number plates.
  - 2. Provide holes for attaching number plates.
  - 3. Doors over 15 inches (380 mm) wide by 60 inches (1.524 m) or 72 inches (1.828 m) high: 3 inch (75 mm) wide 20 gauge full height reinforcing pan welded to inside face of door at 6 inch (150 mm) centers.
  - 4. Box Lockers: Channel formations on lock and hinge sides, right angle flanges on top and bottom; pre-punch doors for padlock latch and friction catch and built-in combination and key locks.
  - 5. Ventilation: Provide louvered doors in manufacturer's standard louver pattern.
    - a. Doors 60 inches (1.524 m) or Higher: Louvers in groups of 6 at top and bottom.
    - b. 36 inch (0.914 m) High Doors: 3 and 6 louvers.
    - c. 30 inch (0.762 m) High Doors: Minimum one group of 6 louvers.
    - d. 24 inch (0.610 m) High Doors: Minimum one group of 3 louvers.
- D. Hinges:



1. Two inch high, 0.074 inch (1.88 mm) thick sheet steel, double spun, full loop, tight pin, projection welded to door frame and securely fastened to the door with two steel rivets.
  - 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.

## 2.04 DOOR HANDLES AND LATCHING

- A. Two Person and Duplex Lockers, 1, 2 and 3 Tier: Multi-point latching:
  1. Chrome-plated zinc alloy die-cast case and handle, 40,000 psi (276 MPa) maximum tensile strength.
  2. Attachment to latch bar concealed inside door and tamperproof; pulling handle out shall move latch bar up and open door in one motion.
  3. Padlock Eye: For use with 9/32 inch (7.1 mm) diameter padlock, integral with handle and located so that extension of handle forms padlock strike.
  4. Case: Kick-proof type shielding movable part and providing padlock strike to prevent scratching and marring the door.
  5. Provide lock hole cover plate for use with padlocks.
  6. Latch Clip: Glass-filled nylon engaging the door frame and holding the door shut.
    - a. Doors over 48 inches (1.066 m) High: Three points.
    - b. All other Doors: Two points.
  7. Locking Device: Positive, automatic type, whereby locker may be locked when open, then closed without unlocking.
  8. Firmly secure rubber silencers in frame as required.
  9. Classic III Multi-point latching with recessed handles:
    - a. Recess finger-lift control handle in door.
    - b. Pocket: brushed stainless steel securely fastened to door with two tabs and a positive tamper-resistant decorative fastener; of depth sufficient to prevent a combination padlock, built-in combination lock, or key lock from protruding beyond door face.
    - c. Provide lock hole cover plate for use with padlocks.
    - d. Attach 14 gauge formed steel lifting piece to latching channel with one concealed retaining lug and one rivet, assuring a positive two-point connection.
    - e. Handle finger lift: Molded, sound-deadening, attached with rivet; padlock eye for use with 9/32 inch (7.1 mm) diameter padlock shackle.
    - f. Latch Clip: Glass-filled nylon engaging the door frame and holding the door shut.
      - 1) Doors 60 inches (1.524 m) and 72 inches (1.828 m) high: Three points.
      - 2) Doors 20 inches (0.508 m) to 48 inches (1.22 m) high: Two points.
    - g. Locking Device: Positive, automatic type, whereby locker may be locked when open, then closed without unlocking.
    - h. Firmly secure one rubber silencer in frame at each latch hook.
- B. Box Lockers (4 to 6 Tier):
  1. Punch doors for use with padlocks or built-in locks.
  2. Equip doors for use with padlocks with an 18 gauge combination door pull, staple, and lock hole cover plate with integral friction catch.

## 2.05 INTERIOR EQUIPMENT

- A. ADA-Compliant Lockers (Recessed Handles with Multi-Point Latch):

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1. Single Tier Lockers: Hat shelf 48 inches (1.219 m) maximum off the floor.
2. Locker Compartment Bottom: Minimum of 15 inches (230 mm) off the floor, or an extra shelf placed 15 inches (381 mm) off the floor for unobstructed forward and side reach.
3. Handicapped symbol attached to door.
4. Hooks and rods as specified for other lockers.

## 2.06 ACCESSORIES

- A. Number Plates: Provide each locker with a polished aluminum number plate, 2-1/4 inches (57 mm) wide by 1 inch (25 mm) high, with black numerals not less than 3/8 inch (9.5 mm) high; attach to face of door with two aluminum rivets.
- B. Closed Bases: 18 gauge closed metal front and end bases, finished to match lockers.
- C. Locks: Built-in flat key locks; master-key to same series.
- D. Locks: Built-in grooved key locks (pin tumbler); master-key to same series.
- E. Locks: Built-in three-number dialing combination locks capable of at least five different combinations changes; provide master key, combination change key, and combination control charts.
- F. Padlocks: Master-keyed three-number dialing combination type padlocks; provide master key. Mechanism must be resistant to "shimming".
- G. Coin-Operated Locks:
  1. Coin return/deposit type.
    - a. One quarter.
    - b. Two quarters.
  2. Coin collect/pay type with cash box.
    - a. One quarter.
    - b. Two quarters.
- H. Continuous Sloped Hoods: 18 gauge steel, slope rise equal to 1/3 of the locker depth (18.5 degrees), plus a 1 inch (25 mm) vertical rise at front.
  1. Supplied in 72 inch (1829 mm) lengths only.
  2. Slip joints without visible fasteners at splice locations.
  3. Provide necessary end closures.
  4. Finish to match lockers.
- I. Continuous Sloped Hoods: 16 gauge steel, slope rise equal to 1/3 of the locker depth (18.5 degrees), plus a 1 inch (25 mm) vertical rise at front.
  1. Supplied in 72 inch (1829 mm) lengths only.
  2. Slip joints without visible fasteners at splice locations.
  3. Provide necessary end closures.
  4. Finish to match lockers.
- J. Unit Slope Tops for Standard Duty Lockers: 24 gauge steel, slope rise equal to 1/3 of the locker depth, finish to match lockers.
- K. Finished End Panels: Minimum 16 gauge steel formed to match locker depth and height, 1 inch (25 mm) edge dimension; finish to match lockers; install with concealed fasteners.





- L. Front Fillers: 20 gauge steel formed in an angle shape, with 20 gauge slip joint angles formed in an angle shape with double bend on one leg forming a pocket to provide adjustable mating with angle filler.
  - 1. Attachment by means of concealed fasteners.
  - 2. Finish to match lockers.
- M. Zee Bases for Knock-Down Lockers: 14 gauge, steel flanged outward at top for support of lockers, flanged inward at bottom for anchoring to floor.
  - 1. Height: 4 inches (101 mm).
  - 2. Height: 6 inches (150 mm).
- N. Recess Trim: 18 gauge steel, 3 inch (75 mm) face dimension.
  - 1. Vertical and/or horizontal as required.
  - 2. Standard lengths as long as practical.
  - 3. Attach to lockers with concealed clips.
  - 4. Provide necessary finish caps and splices.
  - 5. Finish to match lockers.
- O. Basket Racks: 1 inch by 1 inch (25 by 25 mm) by 13 gauge steel angle posts punched for bolting shelves, 12 gauge steel sway braces at back and sides, 20 gauge steel shelves formed with down-turned flanges at back to act as backstops.
- P. Benches: Laminated selected hardwood, 1-1/4 inch (31 mm) full finished thickness, corners rounded and sanded, surfaces finished with two coats of clear lacquer.
  - 1. Depth: 9-1/2 inches (240 mm) deep.
  - 2. Depth: 12 inches (305 mm) deep.
  - 3. Depth: 24 inches (610 mm) deep.
  - 4. Lengths: As shown.
- Q. Heavy-Duty Bench Pedestals: Steel tubing with 11 gauge steel flanges welded to each end, 16-1/4 inches (412 mm) high, finish to match lockers.
- R. Stainless Steel Free-Standing Bench Pedestals: 2-inch (50 mm) diameter brushed 16 gauge stainless steel formed into a trapezoid, 14 inch (355 mm) wide bottom with two 5/16 inch (7.9 mm) diameter holes, top flange with four 5/16 inch (7.9 mm) diameter holes for fastening to bench

## 2.07 FABRICATION

- A. Fabricate lockers square and rigid, without warp, with metal faces flat and free of distortion.
- B. Knock-Down Lockers: Fabricate lockers on the unit principle, each locker with individual door and frame, individual top, bottom, back, and shelves, with common intermediate divisions separating compartments. Verify dimensions and arrangement before fabrication.
- C. Finish: Enamel powder coat paint finish electrostatically applied and properly cured to manufacturer's specifications for optimum performance. Finishes containing volatile organic compounds and subject to out-gassing are not acceptable.
  - 1. Powder Coat - Dry Thickness: 1 to 1.2 mils (0.025 to 0.03 mm).
  - 2. Powder Coat Plus - Dry Thickness: 2 to 2.2 mils (0.05 to 0.055 mm).
  - 3. Color: As selected from manufacturer's standard colors.
  - 4. Special Finish
    - a. Custom color
    - b. Anti-Graffiti
    - c. Anti-Microbial
    - d. TGIC
    - e. Ultra-Weatherable

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## **PART 3 – EXECUTION**

### **3.01 EXAMINATION**

- A. Do not begin installation until substrates and bases have been properly prepared.
- B. If substrate and bases are the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### **3.02 INSTALLATION**

- A. Install metal lockers and accessories at locations shown in accordance with manufacturer's instructions.
- B. Install lockers plumb, level, and square.
- C. Anchor lockers to floor and wall at 48 inches (1.219 m) or less, as recommended by the manufacturer.
- D. Bolt adjoining locker units together to provide rigid installation.
- E. Install sloping tops and metal fillers using concealed fasteners. Provide flush hairline joints against adjacent surfaces.
- F. Install front bases between legs without overlap or exposed fasteners. Provide end bases on exposed ends.
- G. Install benches by fastening bench tops to pedestals and securely anchoring to the floor using appropriate anchors for the floor material.

### **3.03 ADJUSTING AND CLEANING**

- A. Adjust doors and latches to operate without binding. Verify that latches are operating satisfactorily.
- B. Adjust built-in locks to prevent binding of dial or key and ensure smooth operation prior to substantial completion.
- C. Touch-up with factory-supplied paint and repair or replace damaged products before Substantial Completion.

### **3.04 PROTECTION**

- A. Protect installed products until completion of project.

END OF SECTION

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