



**SECTION 10 51 13
METAL LOCKERS**

PART 1 – GENERAL

1.01 SECTION INCLUDES

- A. Electronically Controlled Heavy Duty Welded Locker System.
- 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: 2024 Cressman Rd. P. O. Box 158 ; Skippack, PA 19474-0158; Toll Free Tel: 800-562-1000; Tel: 610-666-0500; Fax: 610-666-7561; Email: general@pencoproducts.com; Web: www.pencoproducts.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 25 00.
- D. Provide only metal lockers fabricated in the United States by a single domestic manufacturer.

2.02 MATERIALS

Sold By

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877.952.0151

- 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.
- 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. Hooks: Zinc plated forged steel, ball ends.
- D. Bolts and Nuts: Zinc plated truss fin head bolts and hex nuts.

2.03 ELECTRONICALLY CONTROLLED LOCKERS

- A. System to consist of electromechanical locking mechanisms and administrative software that grants or limits locker access from a central administrative control.
 - 1. Penco SmartLocker welded electronic locker system
 - 2. Permanently assigned student or employee locker mode
 - 3. Temporary user assignment mode
 - 4. Equipment (tool crib) mode.
 - a. Keyboard and mouse user interface, credential and PIN number
 - b. Touch panel user interface, credential and PIN number
 - 1) Desktop Access
 - 2) Integral Control Cabinet
 - 5. Evidence storage mode.
 - a. Keyboard and mouse user interface, credential and PIN number
 - b. Touch panel user interface, credential and PIN number
 - 1) Desktop Access
 - 2) Integral Control Cabinet
- B. Locker Body:
 - 1. Sides: Vertical frames and sides.
 - a. One Tier Lockers: Front edge of the frame formed to a channel shape with a continuous door strike.
 - b. Two- and Three-Tier Lockers: Intermediate channel shaped horizontal frame members attached to side frames with mortise and tenon construction, securely welded.
 - c. 4-6 tier lockers
 - 1) Compartments separated by formed intermediate tier heads
 - 2) Intermediate channel shaped horizontal frame members attached to side frames with mortise and tenon construction, securely welded.
 - d. Intermediate Vertical Side Frames: Another frame channel securely welded to side frame.
 - e. Ventilation: All side frames and doors solid, for optimum security of contents. Provide ventilation in the form of holes located on upper and lower door flanges.
 - 2. Tops: Notched and formed sheet; one continuous flat top for each group of lockers. Low-voltage system wiring is to be protected and concealed by continuous sloping hoods using concealed fasteners.
 - 3. Bottoms: Notched and formed sheet; one continuous bottom for each group of lockers, suitable for anchoring to wood or concrete bases.
 - 4. Shelves: 16 gauge steel, flanged four sides with additional return flange on front edge to increase strength.
 - 5. Backs: Solid 18 gauge steel. Low profile 18 gauge steel channels are riveted to the backs to protect the wiring harness from damage or tampering.

- a. Groups to 48 inches (1.219 m) wide: One piece back.
 - b. Groups over 48 inches (1.219 m) wide: Two piece back.
- C. Locker Doors: One piece sheet steel.
- 1. Lock mechanism shall mechanically engage a machined steel plunger mounted to the inside of the door using an 11 gauge bracket welded to the door assembly for strength and security. Provide for mechanical release from both the locker interior and adjoining unit in the event of a lock failure. Mechanical override shall be accessible only by trained personnel using specialized tools.
 - 2. Doors are to be secured in the locked position by a high-strength locking gear and latch fully concealed within the lock case. Lock design shall resist prying by positively engaging the machined steel plunger attached to the door. Doors are released electronically into an open position eliminating the need for users to pull or grasp a door handle. Rubber door silencers shall be firmly attached to the locker frame
 - 3. Provide holes for attaching number plates.
 - 4. Ventilation: Flush door front with no exposed louvers and air flow slots located in top and bottom flanges of door.
 - 5. Ventilation:
 - a. Doors 20 inches (508 mm) or Higher: 3/4 inch (19 mm) wide by 1-1/2 inch (38 mm) high diamond-shaped perforations.
 - b. Provide louvered doors in manufacturer's standard louver pattern.
 - c. Provide louvered doors in manufacturer's standard mini-louver pattern, louvers 5/8 inch (15.8 mm) wide and 1/4 inch (6.3 mm) high.
 - 6. Hinges: 16 gauge continuous type hinge riveted to the frame and welded to the door.
 - 7. Reinforcement on 1, 2 and 3 tier doors: 14 gauge door reinforced by a full height 3-1/2 inch (89 mm) wide, 18 gauge vertical pan welded to the top, bottom and hinge side flanges and rear of door skin on 12 inch (305 mm), 15 inch (381 mm) and 18 inch (457 mm) wide doors.
- D. Legs: Furnish each group of lockers with four 4-inch (101 mm) high 14 gauge steel legs welded to locker bottom.
- E. Continuous Metal Base: 4-inch (101 mm) high 16 gauge steel channel, integral with locker bottom.
- F. System Control Unit: System Control Unit (SCU) will manage all functions of the locker control system and will send data and command information to as many as 256 Locker Control Units (LCU), controlling up to 12,288 lockers per SCU, and retrieve transaction data from them via an RS485 interface. SCU will also provide hard contacts for interfacing to optional alarm devices. Both the SCU and standard battery back-up are contained in individual UL approved enclosures and placed within 50 linear feet of the administrative PC.
- 1. System administrator will communicate with the SCU using a personal computer attached to the SCU via an RS-232 interface. With the following minimum requirements:
 - a. Operating System: Windows, Windows 95 through Vista.
 - b. CPU: 266 MHz RAM: 64MB Hard Drive: 500MB
 - c. Other: CD ROM, Mouse, USB port for optional USB reader, Serial Port for SCU interface.
 - d. Recommended: Remote access software package and dedicated telephone line.
 - 2. Power Requirement: Standard 120VAC outlet. Locks are powered by low-voltage (12 VDC) supplied by the LCU.
 - 3. Software: Administrative software provides an interface for the system administrator to all functions of the locker control system. It maintains a

database of users, lockers, and other information related to operation of the system, control the access to lockers and selectively open one or more lockers on command. It will record all transaction data and provides a report system for the administrator.

4. Access Control:
 - a. Farpointe Data. Readers as required. For use with Farpointe Data proximity cards.
 - b. HID or compatible readers as required. For use with HID proximity cards.
 - c. Phillips/Mifare card readers as required. For use with proximity cards.
 - d. Magnetic card readers as required. For use with magnetic stripe cards.
 - e. Biometric confirmation of card swipe
5. Options - Electronic Locker System
 - a. Alarm: In addition to a basic alarm notification on the user interface, an audible or visible signal when the system identifies unauthorized opening of a locker door. Integration of other security devices such as cameras and alert devices can support their selective activation when an alarm condition is triggered.
 - b. Keypad: Keypad may be placed at each locker access station. Design of the unit will ensure that there are no exposed components and the keypad itself is concealed to protect the user's combination code.
 - c. USB Reader: Facilitates accurate entry of credential data when assigning cards or fobs.
 - d. Magnetic Stripe Reader Cleaner: Individually packaged, disposable cleaning cards to remove contaminants from the reader head.
 - e. Data Import/Export: Import/export data using a comma delimited (flat) file format.

2.04 INTERIOR EQUIPMENT

- A. ADA-Compliant Lockers:
 1. Single Tier Lockers: Hat shelf at maximum 48 inches (1.219 m) off the floor for unobstructed forward and side reach.
 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.
- B. Welded Lockers:
 1. Single-Tier, 48-1/2 inches (1.232 m) or Higher: Hat shelf located approximately 9 inches (228 mm) below top of locker.
 2. Openings 20 inches (0.508 m) or Higher and 12 (305 mm) or 15 inches (380 mm) Wide: Two single-prong wall hooks and one double-prong ceiling hook.
 3. Over 15 inches (380 mm) Wide: Four single-prong wall hooks and one double-prong ceiling hook.

2.05 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. 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.
- C. 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.
- D. Finished End Panels: Minimum 16 gauge steel formed to match locker depth and height, 1 inch (25 mm) edge dimension; finish to match lockers and install with concealed fasteners.
- E. 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.
- F. 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.
- G 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. Width: 9-1/2 inches (240 mm) wide.
 2. Width: 12 inches (305 mm) wide.
 3. Width: 24 inches (610 mm) wide.
 4. Lengths: As shown.
- H. Heavy-Duty Bench Pedestals: Steel tubing with 10 gauge steel flanges welded to each end, 16-1/4 inches (412 mm) high, finish to match lockers.
- I. 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

2.06 FABRICATION

- A. Fabricate lockers square, rigid, without warp, with metal faces flat and free of distortion.
- B. Welded Lockers: Pre-assemble lockers by welding into one piece structures in groupings most practical for job requirements, welds free of burrs; maximum width of group to be 54 inches (1.371 m); no bolts, nuts, or rivets allowed in assembly of main locker groups.
- 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. Locker exterior and interior shall be painted the same color.
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.

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 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 mechanism 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

Penco Products, Inc. reserves the right to vary specifications consistent with a policy of continuous product improvement.