
SECTION 10 51 14
WELDED DUTY LOCKERS**PART 1 GENERAL****1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Personal Storage Lockers, Personal Storage with built-in bench drawers (ADA compliant without bench drawers), with sloped tops and mechanical air circulation features on lockers identified in the following specifications.
 - 2. Benches.

1.3 RELATED WORK - NOT FURNISHED & REQUIRING COORDINATION:

- A. Finish floor covering material and installation.

1.4 RELATED SECTIONS:

- A. Section 03 30 00 - Cast-In-Place Concrete: Concrete base construction.
- B. Section 04 20 00 - Unit Masonry.
- C. Section 09 21 16 - Gypsum Board Assemblies.
- D. Section 09 68 23 - Composite Modular Textile Flooring: Flooring in Locker Rooms.
- E. Division 26: Electrical requirements and coordination.

1.5 REFERENCES

- A. American National Standards Institute (ANSI) Standards:
 - 1. Applicable standards for fasteners used for assembly.
- B. American Society for Testing and Materials (ASTM) Standards:
 - 1. Applicable standards for steel sheet materials used for fabrication
 - 2. Applicable standards for the testing of electrostatically applied Powder Coat Paint
- C. American Institute Of Steel Construction (AISC) Standards:
 - 1. Applicable standards for steel materials used for fabrication.

1.6 DESCRIPTION

- A. General: Welded Metal Lockers only with reconfigurable interior. Specialized lances to provide the flexibility of reconfiguration/addition of internal components.
- B. Finishes:
 - 1. Fabricated Metal Components and Assemblies: All components to be painted with an electro-statically applied Powder Coat paint that can meet or exceed test requirements set out by ASTM standard D3451-06 Standard Guide for Testing Coating Powders and Powder Coatings.
- C. Sizes: As indicated on drawings.

1.7 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Provide Welded Metal Lockers capable of withstanding the effects of earthquake movement when required by applicable building codes.

- B. ADA Requirements: Personal Storage Lockers meeting ADA requirements.

1.8 SUBMITTALS

- A. Product Data: Submit manufacturer's product literature and installation instructions for each type of welded metal locker required. Include data substantiating that products to be furnished comply with requirements of the contract documents.
- B. Shop Drawings: Show fabrication, assembly, and installation details, including descriptions of procedures and diagrams. Show complete locker installation layout, including quantities, locations and types of accessory units required. Include notations and descriptions of all installation items and components.
 - 1. Show installation details at non-standard conditions, if any.
 - 2. Provide layout, dimensions, and identification of each unit, corresponding to sequence of installation procedures.
 - 3. Provide installation schedule and procedures to ensure proper installation.
- C. Samples: Provide minimum 3 inches square example of each color and texture on actual substrate for each component to remain exposed after installation.
- D. Selection Samples: For initial selection of colors and textures, submit manufacturer's color charts, consisting of actual product pieces, showing full range of colors and textures available.
- E. Warranty: Submit draft copy of proposed warranty for review by the Architect.
- F. Maintenance Data: Provide written documentation of the manufacturer's statement, claiming the maintenance free nature of the product.

1.9 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Engage an experienced manufacturer who is ISO 9001:2015 certified for the design, production, installation and service of welded metal lockers.
- B. Installer Qualifications: Engage an experienced installer who is the manufacturer's authorized representative for the specified products for installing welded metal lockers.
 - 1. Minimum Qualifications: 3-year experience installing welded metal lockers of comparable size and complexity to specified project requirements.

1.10 DELIVERY, STORAGE AND HANDLING

- A. Follow manufacturer's instructions and recommendations for delivery, storage and handling requirements.

1.11 PROJECT CONDITIONS

- A. Field Measurements: Verify quantities of welded metal locker units before fabrication. Indicate verified measurements on shop drawings. Coordinate fabrication and delivery to ensure no delay in progress of the work.

1.12 SEQUENCING AND SCHEDULING

- A. Sequence welded metal lockers with other work to minimize possibility of damage during remainder of construction period.
 - B. Schedule installation of specified welded metal lockers after finishing operations, including painting, have been completed.
 - C. Provide components, which must be built in at a time, which causes no delays in the general progress of the work.
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- D. Pre-installation Conference: Schedule and conduct conference on project site to review methods and procedures for installing welded Metal Lockers including, but not limited to, the following:
1. Recommended attendees include:
 - a. Owner's Representative.
 - b. Prime Contractor or representative.
 - c. The Architect.
 - d. Manufacturer's representative.
 - e. Subcontractors or installers whose work may affect, or be affected by, the work of this section.

1.13 WARRANTY

- A. Provide a written warranty, executed by Contractor, Installer, and Manufacturer, agreeing to repair or replace units, which fail in materials or workmanship within the established warranty period. This warranty shall be in addition to, and not a limitation of, other rights the Owner may have under General Condition's provisions of the Contract Documents.
- B. Limited Lifetime Warranty: Subject to the terms in the written warranty, warrant the original purchaser exclusively that the locker frames manufactured by it will be free from defects in materials and workmanship for the lifetime of the locker.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design Manufacturer: Provide FreeStyle™ Personal Storage Lockers by Spacesaver Corporation, 1450 Janesville Avenue, Fort Atkinson, Wisconsin 53538-2798, in configurations indicated on drawings.

2.2 BASIC MATERIALS

- A. Provide materials and quality of workmanship, which meets or exceeds established industry standards for products specified. Use furniture grade sheet metal, solid hardwood benches and fasteners for component fabrication unless indicated otherwise. Material thicknesses/gauges are manufacturer's option unless indicated otherwise.

2.3 LOCKER TYPES - A & B

- A. Personal Storage Lockers. Sloped top. Provide standard personal storage lockers A (with built-in bench drawer) & B (ADA).
- B. Note:
 1. Lockers with sloped tops to be equipped with passive air circulation features.
 2. All locker types to be equipped with the functionality of attaching a modular electrical system as required.
 3. All locker types to be equipped with the functionality of attaching a continuous sloped top where indicated.

2.4 MANUFACTURED COMPONENTS

- A. Welded Frame:
 1. The welded frame must consist of top, bottom, back, and sides constructed of a minimum of 18-gauge steel. All frame components shall be joined using resistance welding. Riveting of structural

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- members will not be permitted.
2. Horizontal front flanges will be a minimum of 2 inches. Vertical front flanges will be a minimum of 1 inch. Horizontal and vertical flanges will overlap and be secured with a minimum two (2) resistance welds per corner.
 3. Corner gussets shall be MIG and spot welded in each of the four front corners of the locker for increased stiffness and rigidity.
 4. Provide side panel lances evenly spaced on 3 inch centers. Lances to provide the flexibility of on-site, end-user reconfiguration/addition of internal components anytime, anywhere, now or in the future.
 5. Bench Housing for built-in bench drawer
 - a. Welded frame construction shall consist of top, bottom, and side components joined by using resistance welding. Riveting of bench housing structural members will not be permitted.
 - b. Corner gussets shall be welded in the two (2) front bottom corners of the bench housing for increased stiffness and rigidity.
 - c. Horizontal front flanges will be a minimum of 1 inch.
 - d. Vertical front flanges will be a minimum of 1 inch.
 - e. Horizontal and Vertical front flanges will overlap and shall be secured with minimum of one (1) resistance weld per corner.
 - f. Side panels – Lances symmetric and evenly spaced to provide optimum component locations (standard based on 3 inch on center vertical placement to match mating locker lance design).
 - g. Return flanges on housing to securely fasten housing to welded frame of locker.
 - h. Base of bench housing shall include four (4) 3/8"-16 UNC threaded weld-nuts and corresponding leveling feet.
 - i. Top of bench housing shall include hole pattern for mating bench seat.
 - j. Sides of bench housing shall include mounting holes in the event lockers are ganged together.
 - k. Lockers with built-in bench drawer and built-in external access drawer shall have intermediate base shelf with interlocking mechanism for securing drawer when locker door is closed.
 6. Provide a minimum of four (4) duplex receptacle electrical knock-outs per locker; to be used with a UL listed manufactured electrical wiring system components as required.
 - a. Top of locker shall have electrical duplex receptacle knock-outs located on both right and left side of locker.
 7. Provide ventilation holes in top of locker to allow mechanically extracted air to be pulled up through the locker system as required. Ventilation shall be controlled by eight (8) evenly spaced 0.625 inch diameter holes. Proper ventilation system ensures odors are removed from locker system.
 8. Lockers shall be prepared with mounting holes for use with the continuous sloped top system where indicated on drawings.
 9. Lockers shall be prepared with mounting holes for attaching necessary trim components
 10. Locker shall be prepared with mounting holes for ganging lockers back-to-back or side-by-side
 11. Base of lockers shall include four (4) 3/8"-16 UNC threaded weld-nuts and corresponding leveling feet.
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12. Base shelf for lockers with built-in external access drawers and bench drawers shall have holes to accommodate double-door lock rod and door stop bracket.
 13. End Panels: End Panels with no exposed fasteners shall be provided on the end of each locker run; thus providing a clean and aesthetically pleasing appearance.
 14. All locker sizes and types to be as indicated on drawings:
 - a. Width:
 - 1) Personal Storage Locker: 15 inches as indicated on drawings.
 - 2) Personal Storage Locker with built-in bench drawer or external access drawer: 15 inches as indicated on drawings.
 - b. Height:
 - 1) Personal Storage Locker: 72 inches as indicated on drawings.
 - 2) Personal Storage Locker with built in bench drawer or external access drawer: 72 inches as indicated on drawings.
 - c. Depth:
 - 1) All lockers 24 inches.
 - 2) Bench Top drawers: 36 inches.
 - (a) Bench seat depth 9.5 inches.
 - (b) Leading edge of bench seat to extend 1.125 inches from front of bench drawer.
- B. Ventilation:
1. Provide ventilation holes in top of locker to allow mechanically extracted air to be pulled up through the locker system as required. Ventilation shall be controlled by eight (8) evenly spaced 0.625 inch diameter holes.
 2. Provide louvered air vents in bottom of the main locker door/s to allow mechanically extracted air to be pulled up through the locker system.
 3. Provide louvered air vents in drawer front when built-in bench drawer or built-in external access drawer models are required.
 4. Minimum 0.500 inch gap between back of shelving components and back of locker to provide uninterrupted air flow up the rear of the locker system.
 5. Minimum 2.00 inches gap between front of shelving and locker door to provide uninterrupted air flow up the front of the locker system.
- C. Electrical:
1. Manufacturer shall design and include all electrical system required devices, connections, appurtenances, etc to provide a full and operational system to provide power to (1) one GFCI duplex receptacle in each of the following lockers indicated as A and B (ADA). Each row of these lockers shall be on a circuit as shown on the electrical drawings.
- D. Drawers:
1. Drawer body wrapper shall be formed from single piece consisting of sides and bottom, with backs secured using structural locking lances.
 2. Drawers for locker with built-in bench drawers and built-in external access drawers shall have box-formed drawer front.
 3. Provide interlock system for securing drawer when main locker doors are closed and provide access only when main locker door/s is opened.
 4. Built-in bench drawer shall have a nominal 36 inches depth.
 5. Provide a flush mounted pull handle.
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6. Drawer Slides: Provide 200 lbs maximum load capacity and pass 50,000 cycle performance testing (Max. load, uniform distribution) (Test data to be provided by manufacturer upon request).
 7. Bench drawer minimum 26.5 inches drawer extension.
 8. Provide louvered air vents in drawer front when built-in bench drawer or built-in external access drawer models are required.
 9. Provide capability of attaching glides for Body Armored Drying Rack, as specified.
- E. Bench Seat:
1. Provide 9.5 inches deep laminated kiln dried maple bench seat; material thickness 1.25 inches.
 2. Front (leading edge) of bench seat to have .625 inch or radius bull nose.
 3. Finish of bench seat shall be sanded smooth and have two (2) coats of catalyzed varnish applied.
- F. Single-Piece Welded Doors:
1. Shall be formed from two (2) pieces of minimum 18-gauge cold rolled steel box formed and welded together using modern GMAW techniques. Single-piece door with inner and outer door panels shall have a combined steel thickness of no less than 0.096 inches thick. Welded door design with inner panel optimizes structural integrity of locker door system over and above any single frame door design.
 2. Exterior door panel shall be constructed with formed flanges and return flanges to add stiffness.
 3. Internal door panel shall be constructed with formed flanges for added stiffness.
 4. All inner door panel heights shall be minimum 70% of external door height.
 5. Single-piece welded door frame shall consist of internal door panel nested inside exterior door panel and welded per the following requirements:
 - a. Top / bottom. Exterior and interior panels to be welded in a minimum of three (3) places with weld spacing not to exceed 6 inches or between adjacent welds and 1 inch from any corner.
 - b. Sides. Exterior and interior panels to be welded with spacing not to exceed 12 inches between adjacent welds and 1 inch or from any corner.
 - c. Inner door panel to have peg board style hole pattern, allowing the attachment of Document Holder and any standard peg board accessory.
 - d. Inner door panel to have 4 inch or rectangular slot centered towards the top of the locker.
 - e. External door panel shall have louvers to provide adequate air circulation throughout locker system.
 - 1) Louvered air vents shall be located at the bottom of the locker door to enhance circulation of mechanically extracted air from the bottom of the locker out of the top.
 - 2) Louvered air vents shall be approximately 3 inches or in width and 0.75 inches in height and spaced on 1 inch or centers.
 - f. Single door designs available for 12, 18 and 24 inch locker widths
 - g. Double door designs shall consist of the following:
 - 1) Design available for 30 and 36 inch locker widths
 - 2) Primary door located on the right and the secondary door located on the left-hand side of the locker.
 - 3) Secondary door locking mechanism shall consist of the following:
 - (a) Return flange for supporting primary door
 - (b) Catch bracket
 - (c) One lower lock rod

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- h. All doors shall have neoprene silencers on each door for noise reduction
 - i. Door torsional deflection shall not exceed 0.1875 inch with a 20 lb point load. (Test data to be provided by manufacturer upon request).
 - j. Hinge:
 - 1) Provide 16-gauge full length hinge for increased strength and security of locker system.
 - 2) Hinges to be welded to door frame with spot welds not to exceed 6 inch separation.
 - k. Door assembly to be riveted to door frame on factory pre-established hole pattern.
 - l. Locking Mechanism.
 - 1) Provide the following locking option:
 - (a) Padlock hasp only.
 - 2) Single door models: Provide three locking options as listed above.
 - 3) Double door models: Provide three locking options on the primary door and simple secure lift latch mechanism with 0.3125 inch lock rod for secondary door.
- G. Interior/Accessory components as indicated below:
- 1. All interior components must be constructed of minimum 18-gauge steel (unless otherwise clarified in specification).
 - 2. For added security, internal component can be secured utilizing blind rivets, threaded fasteners, or bending specially designed tab.
 - 3. All interior components available at time of order and as post-installation upgrades in the future.
 - 4. Shelves:
 - a. Shelf with integral hanger bracket (standard):
 - 1) Size specified by locker width
 - 2) Hanger bracket designed with perforations on approximately 3 inch centers to insure clothing separation for optimum ventilation
 - 3) Performance: Uniform load rating 300 lbs.
 - 4) Shelf rear return flange stops minimum 0.50 inch or short of locker back panel on order to allow air circulation throughout entire locker assembly
 - 5. Modular Shelf:
 - a. Provides storage compartment for smaller items
 - b. Approximate compartment size: 9 inches wide and 12 inches high.
 - c. Modular shelves to have tabs to interlock with frame side panel lances
 - d. Modular shelves vertical sides to have lances that match with opposing side panel lances.
 - e. Modular shelves shall have two (2) locations on vertical side panel for attaching hooks, and one (1) location on bottom for attaching double hook accessories.
 - f. Shelf rear return flange stops approximately 1 inch short of locker back panel on order to allow air circulation throughout modular shelf.
 - g. Provide lockable compartment for small valuables:
 - 1) Lockable compartment shall be integral to modular shelf accessory
 - 2) Provide a 14-gauge padlock-able compartment door.
 - 3) Provide 0.188 inch diameter zinc plated steel hinge rod.
 - 4) Door to be mounted with zinc plated steel hinge rod and two shoulder washers for smooth, quiet operation.
 - 5) Provide an 18-gauge hasp bracket for securing lockable compartment door.
 - 6. Document Holder:
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- a. Width – 10.5 inches.
 - b. Height – 6 inches
 - c. Depth – 1.5 inches.
 - d. Design to include matching hole pattern to allow various attachment locations on inner door panel.
7. Mirror:
- a. Material – 0.0625 inch thick plastic with mirror surface on one side.
 - b. 0.0625 inch thick flexible magnet attached to non-mirrored side
 - c. Size – 3.875 inches height and 5.875 inches width.
8. Boot Tray:
- a. Material – Rubber.
 - b. Dimensions:
 - 1) Width – 12.90 inches.
 - 2) Depth – 19.90 inches.
 - 3) Height – 1.25 inches.
 - c. Manufactured from Natural rubber compounds, environmentally friendly, durable, water repellant easily cleaned with soap and water, resistant to alkalis and weak acids, mold, mildew, and dust mites.
9. Body Armor Drying Rack: Provide for lockers EQ-14 and EQ-15 (ADA) only.
- a. Size of tray is controlled by locker width
 - b. Bottom of drying tray shall have louvered pattern to provide air circulation throughout
 - c. Shall have the ability to adjust/glide frontward and backward, while mounted in the bench drawer.
10. Hooks
- a. Single Hooks (2) – attach one single hook on the side of the Lockable Compartment and one on the opposite side panel lances.
 - b. Double Hook (1) – shall have the ability to attach a double hook to the underside of the Modular Shelf/Lockable Compartment.

2.5 ELECTRICAL SYSTEM FOR LOCKERS EQ-14 AND EQ-15 (ADA):

- A. UL listed manufactured electrical wiring system with plug-in-play component design to include but not limited to the following components as required for complete electrical functionality as specified:
 - 1. Receptacles: Standard 20 amp GFCI duplex receptacles, one per locker.
 - 2. Distribution Blocks: As required per locker manufacturer's design to meet specifications and design.
 - 3. Cabling: As required per locker manufacturer's design to meet specifications and design.
 - a. Power-In-Feed Cable: Provides input power to distribution system.
 - b. Jumpers (Plug to Plug: Provides connection between distribution blocks.
- B. Coordinate electrical functionality installation with the electrical contractor.

2.6 HVAC CAPABILITIES FOR LOCKERS:

- A. Lockers A & B (ADA) with sloped tops shall have air passively moved through them via the locker design and openings located in the sloped top ends supports where occurs on locker banks not installed between end walls.

2.7 LOCKER TAG NUMBERS:

- A. Shall provide locker numbers on each locker. Coordinate locker numbering by providing locker layout plans during shop drawing submittal process for Owner's use in determining locker numbering system.

2.8 ACCESSORIES:

- A. Trim and Fillers: Provide manufacturer's standard, where required for complete installation.
- B. Continuous Sloped Top. Provide manufacturers standard, where indicated on drawings.
- C. L-shaped Corner Bench and Closure Trim where indicated to occur on drawings in Men's Locker Room A136.

2.9 FABRICATION

- A. General: Coordinate fabrication and delivery to ensure no delay in progress of the work.

2.10 FINISHES

- A. Colors: As selected by Architect from manufacturer's standard available colors.
- B. Paint Finish: Textured (Standard) – Provide factory applied electrostatic powder coat paint. Meet or exceed specifications of the American Society for Testing and Materials (ASTM) Standards.

PART 3 EXECUTION**3.1 EXAMINATION**

- A. Examine Lockers scheduled to receive accessories for compliance with requirements for installation tolerances and other conditions affecting performance of specified accessory items.
- B. Proceed with accessory installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Follow manufacturer's written instructions for installation of each type of accessory item specified.
- B. Coordinate installation of lockers with electrical and mechanical contractors as required for accessories and mechanical air circulation specified.

3.3 FIELD QUALITY CONTROL

- A. Verify accessory unit alignment and plumb after installation. Correct if required, following manufacturer's instructions.
- B. Remove components that are chipped, scratched, or otherwise damaged and which do not match adjoining work. Replace with new matching units, installed as specified and in manner to eliminate evidence of replacement.

3.4 ADJUSTING

- A. Adjust all accessories to provide smoothly operating, visually acceptable installation.

3.5 CLEANING

- A. Immediately upon completion of installation, clean components and surfaces. Remove surplus materials, rubbish and debris, resulting from installation, upon completion of work and leave areas of installation in neat, clean condition.

3.6 DEMONSTRATION/TRAINING

- A. Schedule and conduct demonstration of installed accessory items and features with Owner's personnel.
- B. Schedule and conduct maintenance training with Owner's maintenance personnel. Training session should include lecture and demonstration of all maintenance and repair procedures that end-user personnel would normally perform.

3.7 PROTECTION

- A. Protect system against damage during remainder of construction period. Advise owner of additional protection needed to ensure that system will be without damage or deterioration at time of substantial completion.

END OF SECTION 10 51 14