

Air Master Systems  
*Titan Core Systems*  
Product Specifications

Version 1.0  
August 22, 2025

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Revision History

Revision - Date	Version	Revised By:	Description of / Reason for Revision:
8-22-25	1.0	MK	Initial Draft of Specification
10-9-25		dc	

## **SECTION 12 35 56 – TITAN CORE SYSTEMS**

### **PART 1: DESCRIPTION OF WORK**

#### **1.00 SUMMARY AND SCOPE**

**A. Section Includes:**

1. Titan Cores
2. Titan Box Frames
3. Titan Shelf System
4. Core Accessories
  - a. Shelving
  - b. Cantilever Table Frames
  - c. Removable Paneling
  - d. Electrical, data, and plumbing integration
  - e. Counter Mounted Cabinets (Hanging Cabinets)
  - f. Epoxy and phenolic worksurfaces
  - g. Standard Leveling Glides

**B. Related sections:**

1. Division 15/22: Plumbing and Exhaust Ducting
2. Division 16: Electrical Fittings and Connections
3. Division 12: Casework

#### **1.01 BASIS OF WORK**

A. This specification intends to use Air Master Systems, Norton Shores, MI, as the standard of construction for Titan Core Systems. The construction standards of the Air Master Systems Titan Core Systems product line shall provide the basis for quality and functional installation.

B. Supply all equipment under this specification. Offering a product that differs in materials and construction from this specification requires written approval. This approval must be obtained at least seven (7) days prior to the proposal deadline.

C. General Contractors should obtain a list of approved table system manufacturers from the architect to prevent non-conformance with these specifications.

D. The owner/architect reserves the right to reject qualified or alternate proposals and to award based on product value, where such action assures the owner of the greater integrity of the product.

#### **1.02 QUALITY ASSURANCE**

A. All electrical components and systems integrated into the laboratory tables have been rigorously tested and certified in compliance with applicable Underwriters Laboratories (UL962) standards.

B. Source Limitations: Obtain table systems, including worktops, shelving, fittings, and accessories, from a single manufacturer through a single source.

C. Product Standard: Comply with SEFA 8 Standards, "Laboratory Furniture-Casework, Shelving, and Tables-Recommended Practices."

D. Manufacturer must have a 5-year warranty as listed on their website.

E. Product must meet the Build America Buy American Act

### **1.03 REFERENCE STANDARDS**

A. All casework, work surface and service fixture construction and performance characteristics shall be in full compliance with SEFA (Scientific Equipment and Furniture Association) standards. At the owner's request, independent third-party testing must be submitted validating compliance and adherence to the architectural specifications.

1. SEFA 2 – Installation of Scientific Laboratory Furniture and Equipment.
2. SEFA 3 – Work Surfaces
3. SEFA 7 – Laboratory and Hospital Fixtures
4. SEFA 8 – Laboratory Furniture
5. SEFA 10 – Adaptable Systems

## **PART 2: PRODUCTS**

### **2.00 MATERIALS**

A. Core Structure:

1. Uprights: 2"x3" 16ga Tubing
2. Supports: 14ga
3. Floor Mount Plates: 10ga

B. Core Panels: 18ga

C. Table Frames:

1. Side Supports: 2"x2" 16a Tubing
2. Rails: 12ga
3. Gussets: 14ga

D. Work Surfaces: Phenolic resin, epoxy resin, or stainless steel.

E. Shelving: 16ga

### **2.01 FABRICATION**

A. General: Complete assembly and finish work at the point of manufacture. Perform assembly on precision jigs to provide square units fully reinforced with angles, gussets, and channels, and integrally framed and welded to form a durable, structurally sound table.

B. Titan Cores: Welded and assembled frame, with slotted uprights for use with core accessories

1. Full and Half Height Core Configurations:

- a. Full Height Cores's: Designed with capability for adjustable shelving above core ledger
- b. Lower Cores's: Designed for applications where shelving and uprights above core ledger is not required

2. Wall and Island Core Configurations:

- a. Wall Cores: Designed for use flush against wall with capability to mount core directly into walls behind them as well as the floor surface
- b. Island Cores: Designed to be freestanding and with capability for use from both sides and mounting into floor surface

3. Reagent Core Configuration:

- a. Optional configuration for 12" tall reagent box located above core ledger. Capability for services to be installed in reagent box paneling
- 4. Core Feet:
  - a. All Titan Cores are assembled with SEFA approved leveling glides
- 5. Core Size Configurations:
  - a. Core Width: configurable from 24" to 72" in 6" increments
  - b. Core Depth: 3", 6", 9", and 12"
    - i. 9" depth only available for wall configurations
  - c. Core Height: 84 5/16" for full height cores. Lower cores are available at 35" in non-reagent configurations and 47" with reagent configurations
- C. Titan Box Frame: Welded and assembled frame with slotted uprights designed for countertop mounting
  - 1. Frame Configurations:
    - a. Wall frame: designed for use on countertop against a wall with full capability of attaching adjustable shelving on a single side
    - b. Standard Frame: designed for use in the center of countertops with full capability of attaching adjustable shelving on both sides
    - c. Shared Frame: designed to replace the need for multiple standard box frames by assembling uprights with cross members on site.
  - 2. Frame Size Configurations
    - a. Frame Width: configurable from 24" to 72" in 6" increments
    - b. Frame Depth: 9" and 12"
      - i. 9" depth only available for wall frames. 12" depth only available for standard and shared frames
    - c. Frame Height: 48"
- D. Island Shelf System: Welded uprights, cross-members, and supports all be ordered separately allowing for uprights to hold 2 shelf brackets
  - 1. Shelf System Module Size Configurations:
    - a. Module Widths: configurable from 24" to 72" in 6" increments
    - b. Module Depth: 3"
    - c. Module Height: 84"
- E. Core Panels: Assembled panels easily mountable to Titan Cores. Configurable with cutouts for SEFA approved services
  - 1. Lower Removable Panels: Panel(s) covering the lower opening between the post uprights on one or both sides of a core
    - a. Configurable with SEFA standard service cutouts for plumbing, data, and/or electric
  - 2. End panels: Panels between uprights on 12" deep cores or between uprights and wall for 9" deep cores.
    - a. Not available for 3" or 6" deep cores
    - b. Configurable with SEFA standard service cutouts for plumbing data and/or electric
- F. Table Frames: Welded and assembled frames able to mount directly to cores
  - 1. Cantilever Frame: Designed for hanging from slots in core uprights with no ground supports
    - a. Adjustable work surface height in 1" increments
  - 2. Structural Cantilever Frames: Designed for hanging from slots in core uprights with ground support for applications where more strength is needed
    - a. Fixed Height with 3 height options (29", 32", 35")
- G. Shelving: Welded shelf body and hat channel with a variety of bracket options
  - 1. Shelf Bracket Configurations

- a. Bookend Shelf Brackets: bracket support above shelf surface to enclose the ends of the shelf
  - b. Inverted Shelf Brackets: bracket support below shelf surface for open ended shelf surfaces
  - c. Seismic Rod Shelf Brackets: Bookend brackets with a seismic rod running the length of the shelf 0.5" up from the front of the shelf.
- 2. Shelf Size Configurations
  - a. Shelf Width: Configurable to 1" increments
  - b. Shelf Bracket Depth: Configurable to 12", 14", and 16"
  - c. Shelf Depth: Configurable to Flush, Mid, Rear
    - i. Flush: Shelf sits flush to the front face of the bench uprights.
    - ii. Mid: Shelf extends to the middle of the of the bench uprights.
    - iii. Rear: Shelf extends to the rear of the bench upright.
- H. Counter Mounted Cabinets (Suspended Cabinets): See Section 12

## 2.02 PERFORMANCE REQUIREMENTS

A. Structural requirements for Titan Core Systems and accessories: Provide Cores's and accessories capable of withstanding the following loads without permanent deformation, excessive deflection, or binding of drawers and doors as per SEFA 10.

- 1. Core Assemblies: (evenly distributed load)
  - a. 12" Deep Core: 2500lbs
  - b. 9" Deep Core: 1300lbs
  - c. 6" Deep Core: 2500lbs
  - d. 3" Deep Core: 1520lbs
- 2. Shelves: 200 lbs. (100lbs for top shelf)
- 3. Cantilever Work Frames: 800lbs
- 4. Heavy-duty Casters: 700lbs

B. Structural requirements for Counter Mounted Cabinets (Hanging Cabinets): See Section 12

C. Work Surfaces and Paint: Provide surfaces meeting SEFA 3 and SEFA 8M Testing standards

## PART 3 – EXECUTION

### 3.00 INSTALLATION

A. Install, plumb, level, and true shims as required, using concealed shims. Where Titan Core Systems abut other finished work, apply filler strips and scribes for an accurate fit, with fasteners concealed where practical.

B. Secure mobile tables with locking casters in designated locations as outlined in the floor plan.

C. Ensure all services (electrical, plumbing, and data) are correctly connected and tested before final acceptance.

### 3.00 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 the original factory finish.

C. Protection: Cover work surfaces with 6-mil plastic or other suitable water-resistant covering. Tape to the underside of the work surface at a minimum of 48 inches in the center.