

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes

1. Factory Fabricated Modular Headwall System

- a. Headwall as detailed on the drawings, including related components and accessories required to form an integral unit. Headwall components shown on the drawings but not specified below shall be included as part of the work under this Section, and all applicable portions of the Specification shall apply to these items.

B. Related Documents

1. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

C. Related Sections

1. Section 22 60 00, Gas and Vacuum systems for Laboratory and Healthcare Facilities
2. Section 26 00 00, Electrical
3. Section 27 52 00, Healthcare Communications and Monitoring Systems

D. Related LEED Sections

1. Construction Waste Management – Section 01 7419
2. Sustainable Design Requirements – Section 01 8113
3. Indoor Air Quality Requirements – Section 01 8114
4. Indoor Finish Requirements – Section 01 8115

1.02 GREEN BUILDING REQUIREMENTS

- A. The Owner requires the Contractor to implement practices and procedures to meet the project's environmental performance goals, which include achieving the LEED Certification specified in Section Sustainable Design Requirements. Specific project goals that may impact this area of work include: use of recycled-content materials; use of locally-manufactured materials; use of low emitting materials; construction waste recycling; and the implementation of a construction indoor air quality management plan. The Contractor shall ensure that the requirements related to these goals are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Subcontractors, shall not be allowed if such changes compromise the stated LEED Requirements.

1.03 REFERENCES

- A. American National Standards Institute (ANSI)
- B. American Society for Testing and Materials (ASTM)

1. ASTM A167-99, Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip
- C. National Fire Protection Association (NFPA)
 1. NFPA 70, National Electrical Code (NEC)
 2. NFPA 99, Healthcare Facilities
- D. GreenGuard Certification (Components)

1.04 SUBMITTALS

- A. Submit sufficient information, clearly presented, to determine compliance with drawings and specifications, including but not limited to the following.
 1. Product Data
 - a. Regulatory Agency Approval Information Sheet.
 - b. Manufacturer's Product and Utility Information Sheets.
 - c. Manufacturer's Product Specifications.
 2. Drawings
 - a. Elevation of Headwall showing materials, construction, dimensions, ceiling height, piping/electrical termination points, circuit designators, location of access panels, and quantities/locations of utilities and accessories.
 - b. Wiring diagram showing connections, electrical ratings, and circuit designators for utilities contained within the Headwall.
 - c. Mounting diagram, wall reinforcement recommendations, rough-in locations/dimensions, and installation details.
 3. Request for Information (RFI).
 4. Reference to available finishes and colors.

1.05 CLOSE-OUT DATA

- A. As directed by Owner, provide complete Operation and Maintenance Manual.
- B. As directed by Owner, provide complete Drawings of Record.
- C. Warranties: See [Section 1.10](#).

1.06 QUALITY ASSURANCE

- A. Qualifications
 1. Manufacturer
 - a. Has been regularly engaged in design and manufacture of the types of products and scope similar to the requirements of this project for a period of not less than five years.

- b. Has sufficient capacity to produce and deliver required materials without causing delays in work.
- c. Is capable of providing field service representation.

2. Installer

- a. Has successfully completed at least three projects of the type and scope similar to the requirements of this project.
- b. Can furnish proof of familiarity with equipment to be installed.
- c. Is acceptable to Manufacturer.

B. Field Samples (Mock-Ups)

- 1. As directed by Owner, construct fully functional Mock-Up unit for the purpose of evaluating quality of work, operation of equipment, product application, system integration, and facility preparation.
- 2. Construct per approved drawings.
- 3. As directed by Owner, may or may not remain part of finished work.
- 4. Work may proceed only after written acceptance of Mock-Up is received.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Time deliveries to ensure materials are available on site when required.
- B. Materials delivered to site in Manufacturer's clearly identified containers.
- C. Receive and store materials in their original containers in a secured space, and in a manner to prevent damage from exposure to harmful weather or conditions.

1.08 PROJECT / SITE CONDITIONS

A. Existing Conditions

- 1. Ensure that walls scheduled to receive materials are adequately reinforced to accept installation of this work.
- 2. Ensure that floor and ceiling work is completed to accept Headwall.
- 3. Ensure that wall work is finished for surface-mounted Headwall.
- 4. Report any deficiencies to Owner/Contractor for corrections.

B. Protection

- 1. Ensure that adjoining work will not be adversely affected by installation of work in this Section.
- 2. Provide temporary protection as required.

C. Environmental Limitations

1. Do not install materials until spaces are enclosed and weather tight, wet work in spaces is complete and dry, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during remainder of the construction period.

D. Field Measurements

1. Verify actual dimensions of construction contiguous with Headwall by field measurements before fabrication.
2. Field measurements to be provided by General Contractor.

1.09 SEQUENCING

- A. Coordinate work in this Section with work of other trades for proper time and sequence in order to avoid delays.
- B. Coordinate this work with other operations taking place in the same area to avoid conflicts.

1.10 WARRANTY

- A. All warranties run from date of substantial completion.

PART 2 - PRODUCTS

2.01 PATIENT BED SERVICE WALL

A. Products

1. Futrus® Headwall System

B. Manufacturer

1. Futrus 154 Distl Avenue Mansfield, Ohio 44902 87-388-7871
Email info@futrus.com; Website www.futrus.com
2. Single Source Responsibility: Components and materials specified in this section provided by a single Manufacturer.
3. If products of other Manufacturers are used to satisfy this section, all items shall meet the requirements specified herein, and be approved by Owner or Architect prior to bid.

C. Design Criteria

1. High-quality functional Modular Headwall with the inherent attributes of durability, aesthetic value, and safety while providing maximum functionality.
2. Effective means to deliver necessary medical gases and other utilities to the patient.
3. Space efficient solution making maximum use of vertical space and floor space.
4. Highly organized and versatile method of storing materials unique to medical requirements.

5. Facilitate ease of Headwall installation and cleaning using non-porous materials

D. Regulatory Requirements

1. Meets or exceeds NFPA 99, 56A, 76B requirements.
2. Complies with NFPA 70 (NEC) requirements.
3. UL listed and labeled where required
4. OSHPD approved where required
5. Meets or exceeds local codes.

2.02 GENERAL SUMMARY

- A. Surface-mounted or in-wall flush-mounted Futrus Headwall System consisting of vertical Headwall units or surface mounted units, extending from the ceiling or fabricated to required height, as specified by the drawings.

2.03 MATERIALS

A. Frame

1. 16 gauge, galvanized steel

B. Removable Fascias

1. Solid Surfacing Material & 3D Laminate

- a. Solid-surfacing Material: Provide solid-surface modular panels made with DuPont™ Corian®.
 - 1) Solid polymer components:
 - a) Cast, nonporous, filled polymer, not coated, laminated or of composite construction with through body colors meeting ANSI Z124.3 or ANSI Z124.6, having minimum physical and performance properties specified.
 - b) Superficial damage to a depth of 0.010 inch (.25 mm) shall be repairable by sanding and/or polishing.
 - c) Performance characteristics: Physical properties data sheet is available upon request from Futrus® Solutions with DuPont™ Corian®
 - b. Color: As selected from manufacturer's full range.
 - c. Finish: Manufacturer's standard matte finish.

2. HPL Access Panels

- a. MRMDF core
- b. Color as specified by Owner

2.04 COMPONENTS [OPTIONAL]

A. Medical Gas Piping and Medical Gas / Vacuum Outlets

1. Medical Gas Piping

- a. Type L copper pipe, cleaned, capped, and properly identified.
- b. Factory installed for connection to building services in accordance with facility requirements and drawings. Termination points above ceiling (surface-mounted Headwall) or below integrated terminal compartments (flush-mounted Headwall).
- c. Factory tested.

2. Medical Gas / Vacuum Outlets

- a. Location and quantity to meet the configuration of services detailed on the drawings.
- b. Provided per Section 22 62 00 and 22 63 00.
- c. Factory installed and tested.
- d. Medical gas outlet Manufacturer's standard cover plates.
- e. Fixed medical gas outlets are permanently installed in one location, however, solutions to allow for future relocation or addition of outlets without requiring recertification can be incorporated during the design phase.

B. Electrical Wiring and Electrical Receptacles

1. Electrical Wiring

- a. Normal (Standard) and Emergency (Critical) Branch Power: #12 THHN stranded copper wire, 600 Volt, with heat resistant thermo-plastic insulation.
- b. Ground: #12 THHN stranded copper wire.
- c. Factory installed for single-point connection to building power in accordance with facility requirements and drawings. Termination points at integrated terminal compartments.
- d. Factory tested.

2. Electrical Receptacles

- a. Location and quantity to meet the configuration of services detailed on the drawings.
- b. Hospital Grade NEMA 5-15R or NEMA 5-20R.
- c. Tamper-Resistant (Safety), Illuminated, or GFCI as directed by Owner.
- d. Colors: White for use on normal (standard) circuits and red for use on emergency (critical) circuits, unless otherwise noted.
- e. Factory installed and tested.

C. Internal Ground Bus

1. Aluminum, unless otherwise specified.

- 2. Factory installed and tested.
- D. Integrated Terminal Compartments
 - 1. Located at the top of each unit.
 - 2. Normal (standard), emergency (critical), low voltage, and 277V as required.
- E. Ceiling Mounting Plate (Surface-Mounted Headwall)
 - 1. Factory punched for conduit termination.
- F. Rough-In Bracket (Flush-Mounted Headwall)
 - 1. Factory punched for conduit termination.
- G. Integrated Accessory Tracks
 - 1. Vertical accessory tracks integrated into headwall.
- H. Provisions
 - 1. Can accommodate provisions for, but not limited to, Nurse Call Equipment, Monitoring Equipment, Data Jacks, Phone Jacks, Lighting, etc. Low Voltage Controller for lighting fixtures (fixture by others) can be provided and factory installed when specified.
 - 2. Required raceways, isolated termination points, and labeled pull cords factory installed.
 - 3. Blank cover plates provided for all provisions with the exception of Nurse Call equipment.
- I. Optional Electrical Components – Provided and Factory Installed As Shown On Drawings
 - 1. Switches
 - a. Industrial Grade, 120/277 Volt, 20 Amp
 - b. Toggle, Decora, 3-Way, Momentary, etc.
 - c. Colors: Ivory for use on normal (standard) circuits and red for use on emergency (critical) circuits, unless otherwise specified.

2.05 LIGHTING (OPTIONAL)

A. Light Fixture

- 1. n/a

ACCESSORIES (OPTIONAL)

2.06

- A. Large selection of accessories to be available including Vacuum Bottle Slides, Monitor Mounting Channels and Arms, Bed Bumpers and Docking Stations, Equipment Rails, Diagnostic Equipment, Sharps, Glove Holders, I.V. Poles, Vacuum Bottles and Slides, etc.
- B. Accessories to be provided by Manufacturer of Headwall to ensure compatibility.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Ensure structure and/or substrate is adequate to support Headwall.
- B. Inspect and verify that walls and areas in which work is to be performed are acceptable for Headwall installation in accordance with Manufacturer's published recommendations and all applicable Sections.
- C. Report all discrepancies and unacceptable conditions to Owner/Contractor for corrections.
- D. Proceed with installation only after discrepancies and unacceptable conditions have been remedied.

3.02 PREPARATION

- A. Coordinate Headwall installation with work of other trades for proper sequence to avoid delays.
- B. Coordinate service connection work with Electrical, Piping, and Communication Contractors.
- C. Ensure that backing material (surface-mounted Headwall) or applicable sill/stud/header (flush-mounted Headwall) installation is complete and acceptable for Headwall installation in accordance with Manufacturer's published recommendations and all applicable Sections.
- D. As directed by Owner, Ceiling Mounting Plate (surface-mounted Headwall) or Rough-In Bracket (flush-mounted Headwall) provided in advance of Headwall.
 - 1. Install at location specified on drawings for pre-installation of electrical, communication, and medical gas building service connections.

3.03 INSTALLATION

- A. Perform installation in strict accordance with Manufacturer's published recommendations and all applicable Sections.
- B. Install Headwall securely, square, level, and plumb. Installation hardware supplied by installing Contractor.
- C. After installation of Headwall and connection of services are complete, test electrical equipment function and grounding in accordance with NFPA requirements. Purge and test medical gases for system certification in accordance with NFPA 99.

3.04 CLEANING

- A. Clean all surfaces to remove all marks, soil, and foreign matter immediately after installation and adjustment are complete.
- B. Recheck all components and perform any necessary additional cleaning just prior to substantial completion.
- C. Remove surplus materials, debris, tools, and equipment upon completion.
- D. Manage Packaging Waste

1. Collect and separate packaging waste materials for reuse and/or recycling.
 - a. Fold and flatten metal and plastic banding.
 2. Remove packaging materials from site and dispose of at appropriate recycling facilities.
- 3.05 PROTECTION
- A. Protect installed Headwall from damage during remaining construction work.

END OF SECTION