

SECTION 413619 – WELDING BOOTH

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: Furnishing, installing and testing Weld Booth at the locations shown on the Contract Drawings. Also included are wiring, conduit, piping and controls required to connect the Weld Booth to building utilities as part of the work of this section and to interconnect the various system components.

1.2 REFERENCED SECTIONS

- A. Section 011000 – Summary
- B. Section 012500 – Substitution Procedures
- C. Section 013300 – Submittal Procedures
- D. Section 014000 – Quality Requirements
- E. Section 016000 – Product Requirements
- F. Section 017823 – Operation & Maintenance Data
- G. Section 017839 – Project Record Documents
- H. Section 017900 – Demonstration and Training
- I. Section 019113 – General Commissioning Requirements
- J. Section 110500 – Common Work Results for Shop Equipment
- K. Division 5 – Metals
- L. Division 22 – Plumbing
- M. Division 23 – Heating, Ventilating and Air Conditioning
- N. Division 26 – Electrical

1.3 CITED STANDARDS

- A. Work shall conform to Federal and State governing rules and regulations and ordinances including, but not limited to the following requirements, and shall pass inspection by authorities having jurisdiction.

1. National Electric Code (NEC)
2. National Electrical Manufacturers Association (NEMA)
3. Underwriters Laboratories (UL)
4. National Fire Protection Association (NFPA)
5. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)
6. Occupational Safety and Health Administration (OSHA)
7. American National Standards Institute (ANSI)
8. American Welding Society (AWS): Structural Welding Code Steel (AWS D 1.1)
9. Building Code of the State of Washington and the International Building Code as adopted therein.

- B. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall take effect.
- C. Furnish all materials and labor necessary to meet these requirements and to obtain approvals of inspections and tests.

1.4 NOTED RESTRICTIONS

- A. Schedule equipment installation in accordance with the Construction Sequencing Plan described in the Contract Drawings.
- B. Avoid disruption to existing Railroad operations.

1.5 QUALITY CONTROL

- A. Field Quality Control.
1. Provide the services of a Manufacturer's Representative to perform functions as specified in Part 3 of this Section.
 2. Submit the name and qualifications of testing agencies used in the equipment testing and documentation process, to Amtrak for approval.

1.6 SUBMITTALS

- A. Submit the following in accordance with the requirements of Section 013300:
1. Shop Drawings.
 2. Product Data.
 3. Calculations.
 4. Specifications to operate and/or maintain the equipment.
 5. Installation Instructions.
- B. Submit signed Certificates of Compliance in accordance with Section 110500.
- C. Submit Warranty in accordance with the Contract Terms and Conditions.
- D. Submit comprehensive lists of all spare parts, supplies and consumables for the equipment in accordance with Section 017823.

- E. Submit schedules and comprehensive procedure for inspection and functional testing of the equipment, in accordance with Section 110500, and as specified herein.

1.7 DELIVERABLES

A. Operations and Maintenance Manuals:

- 1. Provide Operations and Maintenance Manuals in accordance with the requirements of Section 017823.

B. As-Built Drawings:

- 1. Provide As-Built Drawings in accordance with the requirements of Section 017839.

C. Training Program:

- 1. Provide Training Program in accordance with the requirements of Section 017900.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle products in compliance with the requirements specified in Section 110500.

1.9 VERIFICATIONS

- A. Contractor is responsible for coordination and proper relation of all work to the building structure and utilities to the work of all trades. The Contractor shall verify all dimensions of the building that relate to the Weld Booth and notify the Engineer of any discrepancy.

1.10 WARRANTY

- A. Following Substantial Completion, the manufacturer shall provide the Owner with a one (1) year warranty starting at project acceptance, covering all parts, materials, and labor. All warranty work shall be performed by a local manufacturer's representative at the Project Site location, who has capabilities of responding to all problems within 24 hours. Any shipping and delivery costs associated with the warranty of this equipment will be the responsibility of the Manufacturer.

PART 2 - PRODUCTS

2.1 WELDING BOOTH

- A. Equipment Item No. EQ-14.

B. Acceptable Manufacturers:

1. The products of the following manufacturers are specified as the standard of quality for the Weld Booth:
 - a. Oskar Air Products, Inc.
95 Cypress Drive
Youngsville, NC 27596
Telephone: (919) 570-2862
2. Products of equal quality and utility.

C. Construction Features:

1. Self-supporting booth with swing-out doors.
2. Construction: 12-gauge welded steel panel (powder coated interior and exterior).
3. Panel Construction: 2" square stock frame with welded 12-gauge panel skins.
4. Door Frames: double 2" square stock frame with 12-gauge panel skins.
5. Back Support Frame: 12' high to support integral blower combination.
6. Blower Support Frame: (2) blower mounting brackets.
7. Feet: Adjustable leveling feet for non-level surfaces.
8. Powder coated (completely).
9. Back Draft/Hood Features:
 - a. Filter cartridges: (2) 12.5" x 26".
 - b. Adjustable extraction slots with (3) hand turn knob controls each: 8 slots total; (6) 1" x 72" and (2) 1" x 96".
 - c. Clean out drawers: (2) pull out drawers for heavy dust and swarf clean out.
 - d. Recessed lighting: (2) explosion proof Xenon overhead lights.
 - e. Shelving: 6" shelf below clean out drawer on back draft hood.
10. Fume Arm Construction: Aluminum swivel and spun aluminum hood, steel tubes connected with high temperature flexible ducting.
 - a. (2) 8" diameter x 10' length external jointed fume arms with top mounted tension spring.
 - b. Halogen light option and built in air dampers at hood.
 - c. External grab handles at hood.
11. Fume Arm Mounting Brackets: (2) 8" pre-drilled and reinforced fume arm brackets integral in fume hood.
12. Welding Brackets: (2) welding brackets to hold welder units.
13. Blower configuration: (2) backward inclined direct drive blowers (24" impellers, dynamically balanced).
 - a. Motors: (2) 7.5 HP TEFC.
 - b. Air volume: 4,000 cfm @ 6".
 - c. Blower housing: 12 gauge welded steel.

14. Electrical Controls: Full UL approved NEMA 12 panel mounted inside on right back wall of welding booth.
 - a. On/off.
 - b. Disconnects.
 - c. Step down transformer.
 - d. One 60 amp service.
 - e. Emergency shut off.
 15. All electrical service in conduit and terminated on top of welding booth hood.
 16. Compressed air connection: Black pipe for compressed air, terminated on top of welding booth hood.
- D. Dimensions:
1. Booth Outside dimensions:
 - a. Length: 18 feet.
 - b. Width: 10 feet.
 - c. Wall Height: 8 feet, Overall Height: 12 feet.
 2. The back hood 30" wide elevated to 10' (30" x 18').
 3. The back wall and fan supports are at 12' (12' x 18').
 4. Front Booth: (2) 4' x 8' panels with a 20" x 24" viewing window each.
 5. Access doors: (2) 5' x 8' swing-out doors.
- E. Utility Requirements:
1. Power supply: 460 Volt, 3 Phase, 60 Hertz
 - a. 110 Volt, Single Phase, 60 Hertz for lighting and outlets.
 2. Rated power: (2) 7.5 HP TEFC Motors.
 3. Power Outlets: (2) 110 Volt receptacles.
 - a. (1) 460 Volt, 60 Amp service receptacle.
 4. Pneumatic connection: Shop compressed air supply with standard Filter, Lubricator, Regulator.
- F. Accessories:
1. Windows: (2) 20" x 24" viewing windows (provide approved welding protection while welding).
- G. Manufacturer's Model No. WB-18X10 with accessories as manufactured by Oskar Air Products, Inc. or approved equal with the above minimum requirements.

PART 3 - EXECUTION

3.1 SITE CONDITION EXAMINATION

- A. Comply with the Site Examination requirements specified in Section 110500.

3.2 PREPARATION

- A. Comply with the Preparation requirements specified in Section 110500.

3.3 FIELD QUALITY CONTROL

- A. Provide the services of a qualified manufacturer's representative to perform the following:
 - 1. Supervise preparatory work performed by other trades.
 - 2. Supervise installation.
 - 3. Supervise testing, by the Contractor in the presence of the Railroad to ensure proper operation of the equipment.

3.4 INSTALLATION

- A. Comply with the installation requirements specified in Section 110500 and in this Section.
- B. Install equipment and all specified appurtenances and accessories in strict accordance with the approved shop drawings and manufacturer's installation instructions.
- C. Make final connections to all utility services provided for the equipment.

3.5 EQUIPMENT TEST AND CHECKOUT

- A. Comply with the Equipment Test and Checkout requirements specified in Section 110500.
- B. At the sole discretion of the Railroad, the Contractor shall be required to repeat any test at no additional cost to the Railroad.
- C. Document procedures and results of all tests.
 - 1. Perform test result measurements and calculations immediately following tests.
 - 2. Submit test results to Amtrak.

3.6 TRAINING

- A. After all equipment and systems have been installed, connected and tested, the Contractor shall provide training to Railroad personnel as specified in Section 017900.

3.7 FINAL ACCEPTANCE

- A. Final acceptance shall not be granted until the Contractor has complied with the Final Acceptance requirements specified in Sections 019113 and 110500 to the satisfaction of the Railroad.

END OF SECTION 413619