

SECTION 09 70 00

INTERIOR METAL FLUME SERIES WALL PANEL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Extent of Wall Panels System is shown on drawings and schedules
- B. Drawings and general provisions of the Contract Documents apply to work of this section.

1.2 SUMMARY

- A. Section include:
 - a. Interlocking Metal wall panels
 - b. Accessories including sub girts, metal panel splines, metal panel bases, head flashings, clips, shims, fasteners, and metal trims prefinished to match wall panels
- B. Related sections
 - a. Section 05 40 00 – Cold Formed Metal Framing
 - b. Section 06 10 00 – Rough Carpentry
 - c. Section 06 16 43 – Gypsum Sheeting
 - d. Section 07 25 00 – Air Barriers
 - e. Section 07 62 00 – Sheet Metal Flashing and Trim
 - f. Section 07 92 00 – Joint Sealants
- C. Alternates
 - a. Prior Approval: Unless otherwise provided for in the contract documents, proposed product substitutes may be submitted no later than 10 working days prior to the date established for receipt of bids. Approval of a proposed substitution is contingent upon the Architect's review of the proposal for acceptability and approved products will be set forth by addenda
 - i. If substitute products that have not been approved by Addenda are included in a bid, the specified products shall be provided without additional compensation.
 - b. Submittals: That do not provide adequate information for the product evaluation will not be considered. The proposed substitution must meet all requirements of this section, including but not limited to: Single source materials supplier (if specified in section 1.05); panel design, size, composition, color and finish; suspension system component profiles and sizes; compliance with the referenced standards

1.3 REFERENCES

- A. ASTM E 84 “Standard Test Method for Surface Burning Characteristics of Building Materials”
- B. ASTM A 1008 “Standard Specification for Steel, Sheet, Cold-Rolled Carbon, Structural, High-Strength Low Alloy and High-Strength Low-Alloy with Improved Formability”
- C. ASTM C 423 “Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method”
- D. ASTM A 653 “Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process”
- E. ASTM E 1477 “Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by use of Integrating-Sphere Reflectometers”
- F. ASTM B209 “Standard Specification for Aluminum and Aluminum Alloy Sheet and Plate”
- G. ASTM B 117 “Standard Practice for Operating Salt Spray (fog) Apparatus”.
- H. ASTM B 209 “Standard Specification for Aluminum and Aluminum –Alloy Sheet and Plate”

- I. ASTM B 221 “Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes”
- J. ASTM D 659 “Method of evaluating degree of chalking of Exterior Paints”
- K. ASTM D 968 “Standard Test Methods for Abrasion Resistance of Organic coating by Falling Abrasive”
- L. ASTM D 2244 “Standard Practice for Calculation of color Tolerance and Color Differences from Instrumentally measured Color Coordinates”
- M. ASTM 2247 “Practice for testing water Resistance of Coating in 100% humidity”
- N. ASTM D 3352 “Standard Test Method for strontium Ion in Brackish Water, Seawater, and rain”
- O. ASTM E 84 “Standard Test Method for Surface Burning characteristics of Building Materials”

1.4 SUBMITTALS

- A. Product Data: Manufacturer’s product data and installation instructions
- B. LEED Data: Product complies with use for achieving LEED Green Building Rating System credits. Metal Ceiling Pan products are manufactured with recycled material content that comply with credit systems available in various States / Provinces. Contact the Manufacturer for a project specific LEED letter.
- C. Shop Drawings: Submit shop drawings for wall elevations, drawn to scale and coordinating penetrations and wall mounted items. Show the following details:
 - a. Wall elevation plan layout including joint patterns and details.
 - b. Metal wall suspension system plan with appropriate components, suggested support locations and details.
 - c. Method of attachment for suspension system to building structure.
 - d. Wall coordination with light fixtures, air outlets and inlets, speakers, railings and other interfaces.
 - e. Special moldings at perimeters, rail attachments and other junctures with adjoining construction.
 - f. List of materials, dimensions, fastenings and any special details.
- D. Samples for Verification: Submit for each type of wall assembly indicated below: in sets for each color, and pattern specified, showing the full range of variations expected in these characteristics.
 - a. 12-inch long samples of each exposed molding or trim.
 - b. 12-inch long samples of each suspension component.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
 - a. Manufacturer shall have a minimum of 5 years’ experience in manufacturing architectural metal working
- B. Installer Qualifications:
 - a. Installation work to be performed by a firm whose personnel have no less than three (3) years of successful experience on projects of similar size, requirements and complexity.
- C. Mock-Up:
 - a. If requested, provide a mock-up for each form of construction and finish required to verify selections made under sample submittals and to demonstrate aesthetic effects and qualities of materials and execution. Build mock-up to comply with the following minimum requirements, using materials indicated for completed work:
 - i. Locate mock-up in the location and the size as directed by the Architect. Minimum mock-up size to be 10’x10’ unless otherwise specified.
 - ii. Notify Architect at least seven days in advance of dates when the mock-ups will be constructed.
 - iii. Do not proceed with remaining work until workmanship, color and sheen are approved by the Architect.
 - iv. Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the project site in manufacturer's original crating, properly labeled for identification and installation purposes.
- B. Store products in manufacturer's unopened packaging until ready for installation clearly labelled with the following information: project number, item number and quantity, manufacturer's name and address, client name and address and site address.
- C. Store components in a fully enclosed dry space where they will be protected against damage from moisture, direct sunlight, surface contamination and other construction activities.
- D. Comply with prescribed stacking instructions to prevent damage to the components.
- E. Handle components in a manner to prevent damage to the surfaces and edges and prevent distortion and other physical damage.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results.
- B. Allow materials to reach ambient temperature and humidity for a minimum of 24 hours (48 hours recommended), prior to starting installation.
- C. Do not install products in exterior space unless the system has been specifically designed and approved for exterior application.

1.8 WARRANTY (LIMITED)

- A. Metal Wall Panels: Submit a written warranty executed by the manufacture agreeing to repair or replacement of acoustical panels that fail within the warranty period, Failures include but are not limited to:
 - a. Metal Panels: Sagging, warping, rusting and manufacturer's defects
 - b. Metal Suspension Standard: Rusting and manufacturer's defects
- B. Warranty period for Metal Wall Panels is 1 year from date of Substantial Completion

1.9 MAINTENANCE & EXTRA MATERIALS

- A. Maintenance Instructions: Provide manufacturers standard maintenance and cleaning instructions for finishes provided.
- B. Extra Materials: Furnish extra materials described below matching products installed and are to be packaged with protective covering for storage and are identified with labels with labels describing contents.
 - a. Metal Wall Panel Units: Full size units equal to 1.5% of total amount installed.
 - b. Suspension System Components: Quantity of each grid and exposed component equal to 1.5% of amount installed

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Subject to compliance with requirements, provide products from the following manufacturer:
CARRITEC
575 boul. Morgan, Baie-d'Urfé, QC H9X 3T6
Phone 514-457-7779 • Fax 514-457-5559
Contact: info@carritec.com
- B. Carritec Interior FLUME Series Wall Panel

2.2 MATERIALS AND FABRICATION

- A. **METAL WALL PANELS**
 - a. Sheet metal characteristics: From metal panel to fit specified grid module from sheet metals selected for their surface flatness, smoothness and freedom from surface

blemishes, where exposed to view in finished units. Do not use materials whose exposed surfaces exhibit pitting, seam marks, various in flatness exceeding those permitted by referenced standards for stretched-leveled metal sheet, stains discolorations or other imperfections.

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- b. Material:
- i. Aluminum sheet comply with ASTM B 209, alloy and tempered recommended by aluminum producer and finish indicated, and with not less than the strength and durability properties of the 3003-H14 for painted finish or laminate finish and 5005-H14 for anodized finish. **<Remove this section if not applicable>**
 - (i) Thickness: Minimum 0.040 inch (20 Gauge) to 0.187 inch, so that the panel deflection does not exceed L/360 panel dimension in width and length
 - (ii) Finish: Standard: polyester baked enamel, selected from manufacturer's standard colors; Polyvinylidene fluoride resin (Kynar 500) Paint; Duranar, XLI; Clear Anodized (Bright; Brushed; Brushalum; Satin); Laminates (Please contact Carritec for wood grain laminates selection) **<Remove items not applicable>** Please contact Carritec to learn more on our special high-end finishes and veneers.
 - (iii) Color: Custom color selected by Architect **<Remove items not applicable>**

 - ii. Steel sheet comply with ASTM 653, steel and hot dipped galvanized steel recommended by mill producer and finish indicated. **<Remove this section if not applicable>**
 - (i) Thickness: Minimum 0.025 inch (24 Gauge) to 0.125 inch (11 Gauge), so that the panel deflection does not exceed L/360 panel dimension in width and length.
 - (ii) Finish: Standard: polyester baked enamel, selected from manufacturer's standard colors; Polyvinylidene fluoride resin (Kynar 500) Paint; Duranar, XLI; Laminates (Please contact Carritec for wood grain laminates selection) **<Remove items not applicable>** Please contact Carritec to learn more on our special high-end finishes and veneers.
 - (iii) Color: Custom color selected by Architect **<Remove items not applicable>**

 - iii. Stainless steel sheet to comply with ASTM A789 type 304 OR 316 **<Remove this section if not applicable>**
 - (i) Thickness: Minimum 0.025 inch (24 Gauge) to 0.125 inch (11 Gauge), so that the panel deflection does not exceed L/360 panel dimension in width and length.
 - (ii) Finish: Mill Finished (2B); Brushed (#4, #6); Mirror Finished (#8, #10); Non-Directional Finished; Embossed (Please contact Carritec for embossed selections) **<Remove items not applicable>** Please contact Carritec to learn more on our special high-end finish
 - (iii) Color: Custom color selected by Architect **<Remove items not applicable>**

 - iv. Satin coat sheets complying with ASTM A 366 for required finish at job site. **<Remove this section if not applicable>**
 - (i) Thickness: Minimum 0.025 inch (24 Gauge) to 0.125 inch (11 Gauge), so that the panel deflection does not exceed L/360 panel dimension in width and length.
 - (ii) Finish: Galvanized; Galvalume; Baked Enamel; Kynar 500 Paint; Duranar, XL **<Remove items not applicable>** Please contact Carritec to learn more on our special high-end finish
 - (iii) Color: Custom color selected by Architect **<Remove items not applicable>**
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- c. Perforation Panels: (Non-perforated) or (Wide variety of perforation patterns available)

- d. Acoustic Treatment: Non-woven acoustic fabric to be adhered with thermal activated adhesive onto interior surface of the ceiling panel. Fiberglass acoustic media encased in black poly or PVC that will not promote the growth of mold. Thickness is determined by the rate of sound absorption coefficient determined in the specification.
- e. Noise Reduction: Coefficient (NRC) up to 0.90 depending on the perforation pattern.
- f. Flame Rating: All metal panels and associated suspension systems are made entirely of noncombustible materials and to comply and meet with ASTM E 1264 for Class A materials as determined by testing identical products as per ASTM E 84.
- g. Pre-punched post: All posts are made with 16 gauge, or thicker, satin coat or galvanized steel and are punched and formed to the required shape.

B. FABRICATION

- a. Wall Panels: Panels are flat sheet with factory-made hook affixed onto panel vertical perimeter edges. Wall penetrations shall be factory precision cut whenever viable.
- b. Panel sizes: To be fabricated as a one piece unit to a maximum size of 60 inches (1524 mm) in width and no more than 120 inches (3048 mm) in height. Field cut panels at non modular perimeter conditions, or column interfaces or as detailed specified.
- c. Joints: Joints between wall panels are Non Water-Tight and without gasket. All other details including base and other termination points shall be fabricated in accordance with the architectural drawings.
- d. Tolerance: Panels shall be manufactured true to geometry as shown on plan view of architectural drawings with tolerance of $\pm 1/16$ inch (1.5mm).
- e. Installation & Accessibility:
 - i. FLUME Series Wall Panel: Layout panel locations and fix vertical pre-punched post to the building substrate making plumb true and square. Bushings affixed to wall panels are then inserted in pre-punched slots. Panel installation is progressive and is normally starting from lower panels and working upwards, depending on job site conditions.
- f. Accessories & Insert: Fasteners shall be concealed, non-corrosive type, as recommended by the wall panel manufacturer.
- g. Suspension Systems: Pre-punched post to be screwed vertically into building substrate to follow manufacturer layout instruction. Assure plumbness of channel by using shims as required.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine job-site conditions for conditions that may adversely affect installation of the wall panels.
- B. Verify dimensions of the wall panels prior to installation to assure compatibility with job-site conditions.
- C. Verify building substrate is sound, level, and parallel prior to installation of the wall panels.
- D. Wall panels shall be inspected before installation to be free of dents, scratches and other defects prior to installation finished surfaces to assure that blemished or dented surfaces are not present prior to installation.

3.2 INSTALLATION

- A. Install wall panels in accordance with manufacturer's written instructions and approved shop drawings.
- B. All support blocking structures to be supplied by general contractor.

- C. Wall panels shall be erected plumb, level, square, true to line, secured and in proper alignment and relationship to other work of other trades.

3.3 PRODUCT HANDLING

- A. Delivery: Deliver wall components to job site in unopened containers designed to protect product on site as well as in transit, properly identified with product manufacturer's name, trade name and other applicable identification.
- B. Storage: Store all materials in dry and protected locations until installation.
- C. Clean, cotton white gloves shall be used for final installation.
- D. Remove and replace units that have been damaged or cannot be satisfactorily cleaned to the owner's or architect's acceptance, at no additional cost to the owner. To clean materials follow manufacturer's written cleaning procedures.

- END OF SECTION -