

SECTION 07 41 00
Preformed Wall Panels – Kalzip™ FC

This Guide Specification is to be used to develop an office master specification or specifications for a project. In either case, this Guide Specification must be edited to fit the conditions of use. Particular attention should be given to the deletion of inapplicable provisions. Include necessary items related to a particular project.

PART 1 - GENERAL

1.1 SUMMARY

- A. SECTION INCLUDES:
 - 1. Prefinished, prefabricated concealed fastener vertical wall system.
 - 2. Coordinated inside corner, outside corner, sill, header, jamb, lap and base flashings.
 - 3. Extrusions, fasteners, and closures as necessary to meet design criteria and ensure complete installation.

- B. RELATED SECTIONS:
 - 1. Section 05100: Structural Steel
 - 2. Section 05500: Metal Fabrications
 - 3. Section 06100: Rough Carpentry/Wood framing and Decking
 - 4. Section 07600: Flashing and Sheet Metal

1.2 REFERENCES

- A. Aluminum Association:
 - 1. 2005 edition of the Aluminum Design Guide
- B. American Society of Civil Engineers (ASCE)
 - 1. ASCE-7 Minimum Design Loads for Buildings and Other Structures
- C. American Society for Testing and Materials (ASTM):
 - 1. ASTM B209 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 - 2. ASTM E 72 Standard Test Method of Conducting Strength Tests of Panels for Building Construction.

1.3 SYSTEM DESCRIPTION

- A. DESIGN REQUIREMENTS:
 - 1. Design criteria shall be in accordance with current edition of the locally adopted Building Code.
 - 2. Wall Loads:
 - a) Wall loads shall be as shown on the contract drawings or calculated per Building Code components/cladding criteria. The largest inward/outward pressures (contract drawing specified or Building Code calculated) shall govern.
 - 3. Thermal Loads:
 - b) Wall panels shall be free to expand/contract resulting from a total temperature differential of 150 degrees F.
 - 4. Deflection:
 - a) Wall panels shall withstand test pressures of inward and outward wind-load design pressures with maximum deflection of L/120 of the span.

- B. STRUCTURAL REQUIREMENTS:

1. Panel structural properties are to be determined in accordance with latest edition of Aluminum Association's "Aluminum Design Manual- Specifications and Guidelines for Aluminum Structures".
2. Metal wall system must be tested to verify load capacity with one of the following standards:
 - a) ASTM E-72 "Standard Test Method of Conducting Strength Tests of Panels for Building Construction" for determination of negative (suction) load capacity.
 - b) Zullasung product approval Z-14.1-581

1.4 SUBMITTALS

- A. GENERAL: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. PRODUCT DATA: Submit manufacturer's specifications, standard details, and installation manual.
- C. SHOP DRAWINGS:
 1. Show wall panel system with flashings and accessories in elevation; sections and details. Include metal thicknesses and finishes, panel lengths, joining details, anchorage details, flashings and special fabrication provisions for termination and penetrations. Indicate relationships with adjacent and interfacing work.
 2. Do not proceed with manufacture of wall materials prior to review of shop drawings and field verification of all dimensions.
- D. SAMPLES:
 1. Submit sample of panel section, 12" long x full width panel, showing proposed metal thickness, finish and profile.
- E. TEST REPORTS:
 1. Submit copies of design test reports for each of the performance testing standards listed in Section 1.2 of this specification.
 2. Test reports shall be performed by an independent, accredited testing laboratory, and shall bear the seal of a registered professional engineer.
- F. CALCULATIONS:
 1. Submit engineering calculations defining cladding loads for all wall areas based on design criteria listed in section 1.2 of this specification
 2. Calculation shall clearly indicate clip type, spacing of clips by zones, and fastener requirements.
 3. Calculate pullout, pullover, and shear strength of fasteners in accordance with test data published by the fastener manufacturer, utilizing applicable material safety factors.
- G. WARRANTY:
 1. Provide unexecuted specimen warranty documents as required in section 1.6.
- H. CERTIFICATION:
 1. Submit manufacturer's certification that materials and finishes meet specification requirements.
 2. Submit applicator's certification that installer of products meets specified qualifications

1.5 QUALITY ASSURANCE

A. MANUFACTURER'S QUALIFICATIONS:

1. Panel manufacturers must provide full supporting literature, flashing and details guides, Guide Specifications, and technical support.

B. APPLICATOR QUALIFICATIONS:

1. Applicator must have three years minimum experience in application of metal wall systems of this nature.
2. Applicator must be an approved installer, certified by the manufacturer prior to beginning installation of the wall.

C. PRODUCT SUBSTITUTION:

1. Products listed in this specification section are as manufactured by Kalzip Inc.
2. Alternate wall panels will only be accepted with prior written approval of Architect.
3. Substitution requests must be submitted in writing minimum ten days prior to bid date accompanied by product literature, technical information, and product sample. Approved substitutions will be set forth in an addendum.
4. No substitutions will be permitted after bid date.

D. PRE-INSTALLATION MEETINGS:

1. Conduct pre-installation meeting to verify project requirements, substrate conditions, and manufacturer's installation instructions.

1.6 DELIVERY, STORAGE AND HANDLING

A. DELIVERY:

1. Deliver metal wall system to jobsite properly packaged to provide protection against transportation damage

B. HANDLING:

1. Exercise extreme care in unloading, storing, and erecting metal wall system to prevent bending, warping, twisting, and surface damage.

C. STORAGE AND PROTECTION:

1. Store sheet bundles above ground with one end elevated and allow for air circulation and drainage.
2. Store sheet bundles under tarpaulin cover to protect from rain and prevent accumulation of dirt and condensation.
4. Prolonged storage of bundled sheets is not recommended.
5. ALWAYS avoid direct contact with alkali-bearing material such as lime based cement, concrete/mortar.

1.7 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project specific warranty provisions.

B. Furnish manufacturer's standard 20-year warranty stating panel material will not fail due to:

1. Corrosion
2. Rupture
3. Perforation

C. Installer's Warranty: In a form acceptable to the Owner, Installer agrees to repair or replace metal wall panel assemblies that fail in materials and workmanship within two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURER

- A. Kalzip Inc.
161 W. Lincolnway Suite C, Valparaiso, IN 46383 219-286-3481
- B. SUBSTITUTIONS:
 - 1. Substitutions must fully comply with specified requirements.
 - 2. Refer to specification Section 01630 - Product Options and Substitutions for substitution request procedures.

2.2 MATERIALS

- A. PANELS:
 - 1. Aluminum alloy sheet, ASTM B209, aluminum alloy 5005 or 3004 in accord with manufacturer's standard to suit forming operations and finish specified
Thickness: 0.039" or 0.047"
 - 2. Fabricated flush/flat concealed fastener vertical panel system with individual panel replacement capability
 - 3. Panels shall be of the following sizes
 - i. 11.81" (300mm) wide x 1.18" (30mm) deep
 - ii. 13.78" (350mm) wide x 1.18" (30mm) deep
 - iii. 15.75" (400mm) wide x 1.18" (30mm) deep
 - iv. 17.71" (450mm) wide x 1.18" (30mm) deep
 - v. 19.69" (500mm) wide x 1.18" (30mm) deep
 - 4. Acceptable Wall System: "Kalzip FC" by Kalzip Inc..
- B. ACCESSORIES:
 - 1. Provide manufacturer's standard accessories (aluminum click rails, guidance snappers, fixed point holders) and other items essential to completeness of wall panel system installation.

2.3 MISCELLANEOUS MATERIALS

- A. FASTENERS:
 - 1. All self tapping/self drilling fasteners and rivets shall be designed to withstand specified design loads.
 - 2. All fasteners to be manufactured from series 304 austenitic stainless steel. Rivet style fasteners to be manufactured from aluminum or stainless steel.
 - 3. Provide neoprene washers under the heads of all exposed fasteners.
 - 4. Use proper torque settings to obtain controlled uniform compression for a positive seal without rupturing the neoprene washer.
- B. ACCESSORIES:
 - 1. Provide all components required per the approved shop drawings for a complete metal wall system to include panels, fasteners, trims/flashings, extrusions and any other required items.

2.4 FABRICATION

- A. PANELS:
 - 1. Provide factory formed panels 11.81" /15.75"/19.69" wide with 1.18" leg depth.
- B. TRIM/FLASHING:
 - 1. Fabricated trims/flashings to be from same material and gauge as wall panel system.
 - 2. Fabricate trims/flashings in accordance with approved shop drawings and applicable standards.

2.5 FINISH

- A. Two-Coat Fluoropolymer Finish: Standard fluoropolymer 2-coat system consisting of 0.2 mil primer and 0.8 mil 70 percent PVDF fluoropolymer color coat.
 - 1. Color: As selected from manufacturer's standard colors
 - 2. Color: As selected from manufacturer's custom colors
 - 3. Color: _____.
- B. Two-Coat Fluoropolymer Finish: MICA metallic appearing coating, 0.25 mil primer with 0.8 mil 70 percent PFCF fluoropolymer color coat containing pearlescent flakes.
 - 1. Color: As selected from manufacturer's standard colors
 - 2. Color: As selected from manufacturer's custom colors
 - 3. Color: _____.
- C. Three-Coat Fluoropolymer Finish: Metallic finish, 0.25 mil primer with 0.75 mil 70 percent PVDF fluoropolymer coating containing metallic flakes and 0.5 mil 70 percent PVDF fluoropolymer clear top coat
 - 1. Color: As selected from manufacturer's standard colors
 - 2. Color: As selected from manufacturer's custom colors
 - 3. Color: _____.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine the alignment and placement of the building structure and substrate. Correct any objectionable warp, waves or buckles in the substrate before proceeding with installation of the pre-formed metal wall panel. The installed wall panels will follow the contour of the structure and may appear irregular if not corrected.
- B. Do not proceed with installation until discrepancies have been resolved.

3.2 INSTALLATION

- A. Install wall panels and flashings in accordance with approved shop drawings and manufacturer's product data, within specified erection tolerances.
- B. Anchor panels securely in place using fasteners and spacing in accordance with manufacturer's recommendations.
- C. Do not allow panels or trim to come in contact with dissimilar materials such as copper, fire retardant treated timber, concrete/mortar. Water runoff from dissimilar materials is also prohibited

3.3 CLEANING

- A. Clean exposed surfaces of excess material and debris promptly after completion of installation.
- B. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance.

3.4 PROTECTION

- A. Protect work as required to ensure wall panel system will be without damage at time of final completion.
- B. Replace products having damage other than minor finish damage.
- C. Repair products having minor damage to finish in accordance with panel manufacturer's recommendations.

END OF SECTION