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### **VAIL TITAN SELECT Guide Specifications**

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. Include appropriate requirements where blank spaces have been provided.

#### **SECTION 07 31 16 - Metal Shingle Roofing- VAIL TITAN SELECT**

Note to Designer: This product is designed for roof slopes as low as 3:12. Please consult a Custom-Bilt Metals representative for slope design restrictions.

#### **PART 1 – GENERAL**

##### **1.01 SECTION INCLUDES**

The work includes, but is not necessarily limited to, furnishing and installation of all preformed metal shingle roofing, and accessories as indicated on the drawings and specified herein.

##### **1.02 RELATED SECTIONS**

Edit for project conditions. Section Numbers indicated are those recommended by CSI Masterformat 2004; revise if numbers differ from those used in Project Manual.

- A. Structural Metal Framing: Section 051000
- B. Structural Metal Roof and Floor Decking: Section 053000
- C. Metal fabrications: Section 055000
- D. Wood framing: Section 061000
- E. Glued- Laminated construction: Section 061800
- F. Thermal Protection: Section 072000
- G. Fire and Smoke Protection: Section 078000
- H. Sheet metal Gutters and Downspouts: Section 077123
- I. Joint Protection not specified herein: Section 079000
- J. Painting and coating not specified herein: Section 099000

##### **1.03 PERFORMANCE REQUIREMENTS**

###### **A. TESTING AND CERTIFICATION**

1. Wind Uplift: UL 580 test, Class 90 rated per
  - a. Minimum 26 gauge steel panels when installed over 5/8" plywood, with roof fastener clips at 3 clips per panel.

Note: UL certification does not indicate panel suitability for actual project conditions. Vail Titan Select is tested in a structural condition for maximum uplift exposure.

2. ASTM 1897, Uplift Test for Roof Covering Systems.
3. Class A Fire rating when installed with "Elk Versashield" per ICC Legacy report ER-5627

##### **1.04 SUBMITTALS**

###### **A. PRODUCT DATA**

1. Submit manufacturer's technical product data, installation instructions and recommendations for each type of roofing required.

B. SAMPLES

1. Submit Manufacturer's standard color Samples for Architect's/Engineer's selection.
2. Submit (1) full width Shingle Sample showing shape and a representative color chip for Architect's/Engineer's acceptance.

C. SHOP DRAWINGS

1. Installer to submit complete shop drawings indicating thickness and dimensions of parts, fastenings and anchoring methods, details and locations of seams, transitions, and other provisions necessary to accommodate thermal expansion and contraction.
2. Shop drawings show methods of erection, elevations and plans of roof and wall panels, sections and details, anticipated loads, flashings, roof curbs, vents, sealants, substrates, underlayment materials and products interfaces with all materials not supplied and proposed identification of parts and their finishes.

1.05 QUALITY ASSURANCE

A. INSTALLER'S QUALIFICATIONS

1. Installer must be approved by the Manufacturer in writing prior to work commencing.
2. Installer shall meet the following:
  - a. Successfully applied metal roofs of comparable size and complexity which reflect a quality installation.
  - b. Have been in business for a minimum period of three years in the region where the work will be performed.

B. MANUFACTURER'S QUALIFICATIONS

1. Manufacturer shall have a minimum of 5 years experience supplying metal roofing to the region where the work is to be done.
2. Comply with current independent testing and certification as specified.
3. Manufacturers without full supporting literature; Flashings & Details Guides, Guide Specifications and Technical Support, shall not be considered equal to the specified product.

C. REGULATORY AGENCY REQUIREMENTS

1. Comply with local Building Code requirements if more restrictive than those specified herein.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Protect material against damage and discoloration
- B. Handle materials with non-marring slings.
- C. Do not bend materials.
- D. Store materials above ground, with one end elevated for drainage.
- E. Protect materials against standing water and condensation between adjacent surfaces.

1.07 PROJECT CONDITIONS

- A. Examine the conditions and substrates in which metal roofing work is to be installed. Substrate shall be installed level, flat and true to avoid panel stresses and distortion.
- B. Proceed with roofing installation only after satisfactory conditions are met.

## 1.08 WARRANTY

### A. MANUFACTURER'S PRODUCT WARRANTY

1. Manufacturer's standard 35 year coating performance warranty, as available for specified installation and environmental conditions. (Contact a Custom-Bilt Metals representative to determine actual warranty criteria.)

### B. CONTRACTOR'S WARRANTY

1. Warrant metal roof system including shingles, flashings, sealants, fasteners and accessories against defective workmanship, to remain weatherproof with normal usage for two (2) years following Project Substantial Completion date.

## PART 2 – PRODUCTS

### 2.01 MANUFACTURER

- A. Custom-Bilt Metals, 13940 Magnolia Ave., Chino, Ca. 91710, 800-886-2458, fax 909-664-1520. info@custombiltmetals.com
- B. SHINGLE DESIGNATION: Vail Titan Select
- C. ALTERNATES: Approval of substitute systems is required prior to bid. The Architect will be the sole judge of what qualifies as an "equal" system. To be approved as an equal system, submit or respond to all items in "Quality Assurance", "Performance Requirements" and "Submittal" sections of this specification. All submittals must be received in the Architect's office a minimum of ten (10) working days prior to bid.

### 2.02 MATERIALS

- A. Shingles: Fabricate shingles to interlock with adjacent shingles and other manufactured accessory pieces on all four sides. Form with folded seams to create interlocking shingle design.
  1. Base Material:
    - a. ASTM A 792 Zinalume/Galvalume, AZ50 coating, 26 gauge.
  2. Exterior Finish:
    - a. Ultra-Cool® (Polyvinylidene Fluoride), full 70% Kynar® 500/Hylar 5000® consisting of a baked-on 0.2 mil corrosion resistant primer and a baked-on 0.8 mil .
    - b. Finish to have a minimum solar reflectance of 25%.
    - c. Must meet the ENERGY STAR rating criteria for cool roofs.
  3. Interior Finish:
    - a. Primer Coat Material: Corrosion-resistant primer; primer coat dry film thickness: 0.15 mils; finish coat material: polyester paint, finish coat dry film thickness: 0.35 mils. Off-white backer.
    - b. Total Interior Dry Film Thickness: 0.50 mils.
  4. Color: (choose one)
    - a. Manufacturer's standard selection of not less than 12 colors. All must meet Energy Star rating for Cool Roofs. Custom and premium colors available upon request at additional costs.
  5. Configuration:
    - a. Shingle Length overall: 34-1/2 in (900 mm)
    - b. Shingle Width overall: 12 in, (305 mm)
    - c. Exposure area per panel: 32-1/2 x 11-1/4 in (867 mm x 286 mm)
    - d. Weight: 107 lbs (48 kg) per sq

B. ACCESSORIES

1. Clip:
  - a. Provide clips designed to allow shingles to thermally expand and contract.
2. Fasteners:
  - a. #10 X 1" pancake corrosion resistant screws
3. Sealant:
  - a. Gunnable Grade Caulking: Single component polyurethane caulk or Gunnable grade butyl.
  - b. Tape sealant: Butyl

C. FLASHING

1. Material, gauge and finish to match panels. Do not use lead or copper.

PART 3 – EXECUTION

3.01 EXAMINATION

A. EXISTING CONDITIONS

1. Verify that substrate to receive shingles is complete, accurately sized and located, in true plane, secure and otherwise properly prepared.
2. Prior to starting work, notify General Contractor about any defects requiring correction
3. Do not start work until conditions are satisfactory.

3.02 PREPARATION

A. FIELD MEASUREMENTS

1. If field measurements differ from drawing dimensions, notify Architect/Engineer prior to fabrication.

B. PROTECTION

1. Treat, or isolate with protective material, any contacting surfaces of dissimilar materials to prevent electrolytic corrosion.
2. Require workmen who will be walking on Roofing Shingles to wear clean, soft-soled work shoes that will not pick up stones or other abrasive material which could cause damage or discoloration.
3. Protect Work of other Trades against damage and discoloration.

C. SURFACE PREPARATION

1. Clean and dry surfaces prior to applying sealant.

3.03 INSTALLATION

A. SHINGLES

1. Comply with manufacturer's instructions for assembly and installation.
2. Install in accordance with approved shop drawings.
3. Do not stretch or compress shingle side-lap.
4. Secure shingles without warp or deflection.
5. Fully engage shingles on all four sides.

B. ALLOWABLE ERECTION TOLERANCE

1. Maximum substrate Variation: 1/4 inch in 20 feet.

C. FLASHING

1. Install in compliance with Manufacturer's installation instructions and Architect approved Shop Drawings.
2. Install flashings to allow for thermal movement.
3. Remove strippable protective film, if used, immediately preceding flashing installation.

D. CUTTING AND FITTING

1. Neat, square and true. Torch or saw cutting is prohibited.
2. Substrate openings 6 inches and larger in any direction: Shop fabricate and reinforce to maintain original load capacity.

3.04 CLEAN UP AND CLOSE OUT

A. SHINGLE DAMAGE AND FINISH SCRATCHES

1. Touch-up paint should not be applied to damaged paint areas that involve minor scratches or abrasions.
2. Shingles or flashings that have severe paint and/or substrate damage shall be replaced as directed by the Architect's or Owner's representative.

Note: Custom-Bilt Metals does not recommend using touch-up paint on damaged surfaces (minor scratches, etc.) due to the fading and weathering differences of the touch-up paints in comparison to factory applied paint systems.

B. CLEANING AND REPAIRING

1. At completion of each day's work, sweep the Panels, Flashings and Gutters clean. Do not allow fasteners, cuttings, filings or scraps to accumulate.
2. Remove debris from Project Site upon work completion or sooner, if directed.

**Note:** A waviness commonly referred to as "oil canning" appears on flat metal surfaces. This is caused by steel mill tolerances and is a characteristic, not a defect, of panels manufactured from a light gauge metal "Oil canning" will not be accepted as cause for panel rejection.

END OF SECTION