



MultiLok-24[®]
Guide Specifications
conforming to C.S.I. standards

MultiLok-24® Guide Specifications

MANUFACTURER - AEP SPAN

5100 East Grand Avenue, Dallas, TX 75223, 800-527-2503

2141 Milwaukee Way, Tacoma, WA 98421, 800-733-4955

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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 07610 – Preformed Metal Standing Seam Roofing

PART 1 – GENERAL

1.01 SECTION INCLUDES

The work includes, but is not necessarily limited to, furnishing and installation of all preformed metal 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; revise if numbers differ from those used in Project Manual.

- A. Metal Deck used as Concrete Formwork: Section 03100
- B. Structural Steel Supports: Section 05100
- C. Structural Metal Roof and Floor Decking: Section 05300
- D. Miscellaneous Fabricated Steel: Section 05500
- E. Structural Lumber Supports: Section 06100
- F. Structural Glue Laminated Lumber Supports: Section 06181
- G. Thermal Insulation: Section 07200
- H. Fireproofing: Section 07250
- I. Sheetmetal Gutters and Downspouts: Section 07600
- J. Joint Sealants not specified herein: Section 07900
- K. Finish Painting not specified herein: Section 09900

1.03 PERFORMANCE REQUIREMENTS

A. TESTING AND CERTIFICATION

1. Wind Uplift:

- a. In UL 580 test, 24-gauge rated Class 90 for RollLok Seam, when applied over 16 gauge steel purlins spaced 5'0" on center maximum (minimum flange thickness 0.0575 inch). The roof panel manufacturer must also subscribe to Underwriters Laboratories' "Follow Up Service" assuring continued product compliance with UL requirements.
- b. TripleLok seam achieves FM 1-90 rating (16 gauge purlins spaced 4'-0" O.C.).
- c. TripleLok seam achieves FM 1-60 rating (16 gauge purlins spaced 5'-0" O.C.).
- d. Tests shall be established in accordance with ASTM E-1592 or the previous Corps of Engineers test-method for structural performance of SSSMRS by uniform static air pressure difference CECS-07416.

2. Weather Tightness: The TripleLok seam has achieved the following:

- a. ASTM E 1680 air infiltration at 1.57 psf measured .007 cfm/lnf of sidelap seam.
- b. ASTM E 1680 air infiltration at 12.0 psf measured .021 cfm/lnf of sidelap seam.
- c. ASTM E 1646 Water leakage was zero at 12 psf.

3. Minimum Section Properties: 24 Gauge

- a. Positive:
 - 1. Moment of inertia: 0.3739 (In4/ft.).
 - 2. Section Modulus: 0.1567 (In3/ft.).
- b. Negative:
 - 1. Moment of inertia: 0.1577 (In4/ft.).
 - 2. Section Modulus: 0.0965 (In3/ft.).

Note: Section properties are determined in accordance with AISI Specifications For the Design of Cold-Formed Steel, 1996 Edition.

1.04 SUBMITTALS

- A. Samples and Literature
 - 1. Prior to ordering products, submit samples of roof panels and concealed clips along with Manufacturer's literature and specifications for Architect approval.
- B. Detail Drawings
 - 1. Detailed shop drawings must be submitted for approval prior to fabrication. Shop drawings shall indicate the factory coating specifications and other data as necessary to clearly describe gauges, profiles, fastener types and locations.

1.05 QUALITY ASSURANCE

- A. Installer's Qualifications
 - 1. Installer must be approved by the Panel Manufacturer in writing prior to work commencing.
 - 2. Installer shall meet the following:
 - a. Successfully applied five metal roofs of comparable size and complexity which reflects a quality weathertight installation in the region where the work will be performed.
 - b. Have been in business for a minimum period of five years in the region where the work will be performed.
- B. Manufacturer's Qualifications
 - 1. Manufacturer shall have a minimum of 10 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. Manufacturer shall provide proof of \$2,000,000 liability insurance for their metal roof system and comply with current independent testing and certification as specified.
 - 4. The roof panel manufacturer must also subscribe to Underwriters Laboratories' "Follow Up Service" assuring continuing product compliance with UL requirements. Shipment packaging of panels and attachment clips must bear UL classification markings.
 - 5. Panel 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 UBC and local Building Code requirements if more restrictive than those specified herein.
 - 2. Compliance with certification must be submitted with bid.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Comply with manufacturer's recommendations for off-loading materials.
- B. Handle panels with non-marring slings.
- C. Do not bend panels.
- D. Store panels above ground, with one end elevated for drainage.
- E. Protect panels against standing water and condensation between adjacent surfaces.
- F. If panels become wet, immediately separate sheets, wipe dry with clean cloth, and allow to air dry.
- G. Store accessory items in a dry place.

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.
- B. Field measurements shall be taken prior to fabrication of panels.
- C. Proceed with roofing installation only after satisfactory conditions are met.

1.08 WARRANTY

- A. MANUFACTURER'S PRODUCT WARRANTY
 1. Manufacturer's standard coating performance warranty, as available for specified installation and environmental conditions. [Contact an AEP Span representative to determine actual warranty criteria.]
- B. CONTRACTOR'S WARRANTY
 1. Warrant panels, flashings, sealants, fasteners and accessories against defective materials and/or workmanship, to remain watertight and weatherproof with normal usage for two (2) years following Project Substantial Completion date.

PART 2 – PRODUCTS**2.01 ACCEPTABLE MANUFACTURER**

- A. AEP Span, A Division of ASC Profiles Inc, 2110 Enterprise Boulevard, West Sacramento, CA 95691-3493, 800-726-2727, 916-372-0933 (Corporate Office)
Sales and Manufacturing Location:
Tacoma: 2141 Milwaukee Way, Tacoma, Washington 98421, 253-383-4955.
- B. PANEL DESIGNATION: MultiLok-24®
- 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. PANELS
 1. Base Metal:
 - a. Material: Steel conforming to ASTM A-792 Grade 50B with a minimum yield strength of 50,000 psi, and thickness not less than 24 gauge.
 - b. Protective Coating: ZINCALUME® conforming to ASTM A-792 AZ50, 45% zinc and 55% aluminum alloy by weight.

Note: A variety of custom paint finishes are available including DuraTech® nt and DuraTech® 5000 (PVF2). Contact your AEP Span representative for information on performance, cost, and availability.

2. Configuration
 - a. Profile: Roof panels shall consist of an 18-3/4" wide striated pan between 3" high corrugations with factory-caulked standing seams for a 24" net coverage in place. Corrugations shall be haunched to provide a reinforcing rib on each side. Panels shall be factory-notched and punched.
 - b. Manufacturer also provides an 18" net coverage 'filler' panel to assist with location of pipe penetrations and rake flashing conditions.
 - c. Provide panels in the maximum length recommended by AEP Span to minimize end laps accommodating practical transportation and field handling.
 - d. Factory-Applied Sidelap Seam Sealant.

Note: All flat metal surfaces can display a waviness commonly referred to as "oil canning". This is caused by steel mill tolerances, variations in the steel substrate and roofing underlayments. Darker colors will accentuate "oil canning" to a greater extent than lighter, more neutral colors. "Oil canning" is an inherent characteristic of flat steel products, not a defect, and therefore is not a cause for panel rejection.

B. ACCESSORIES

1. Concealed Clip:
Clip consisting of a fixed base and moveable clip tab with factory applied sealant allowing for 2-1/8" of thermal movement.
2. Fasteners:
 - a. Concealed fasteners: Corrosion resistant plated steel as recommended by panel manufacturer.
 - b. Exposed fasteners: Long life zinc and aluminum alloy cast head with self-sealing washers, such as ZACTM.
3. Sealant:
 - a. Field-Applied tape Sealant: Butyl type, 1/8" x 1".
4. Connection Hardware:
Shall be designed to allow the roof system including panels, flashings, endlaps, rake and ridge conditions to move with thermal expansion/contraction from a fixed eave condition.
 - a. Fixed Clip: 20 gauge galvanized or zinc-aluminum coated steel.
 - b. Rake Clip: 16 gauge galvanized or zinc-aluminum coated steel.
 - c. Back-Up Plate: 16 gauge galvanized or zinc-aluminum coated steel. Factory punched, enabling back-up plate fasteners to apply 2,000 pounds clamping force at endlaps.
 - d. End Dam: 18 gauge galvanized or zinc-aluminum coated steel. Factory punched.
 - e. Cinch Strap: 0.040" stainless steel prepunched and shaped to fit snugly between the ribs. Strap shall compress the panel inside tightly at both rib and flat areas.
5. Thermal Blocks:
 - a. 1" thick 1.0 pcf expanded polystyrene foam for insulation 4" or less.
 - b. 1/2" thick Dow Chemical thermal block for insulation 4"- 6" thick.

C. FLASHING

1. Protective metallic coating, material, gauge and finish to match panels. Do not use lead or copper. Remove any strippable film prior to installation.

D. FABRICATION

1. Flashings, gutters and downspouts shall be of 26 or 24 gauge Zinalume® or prepainted galvanized coated steel to provide a complete, weathertight installation.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. MultiLok-24® panels shall be installed only when substrate and/or subframe is installed and aligned true in plane, accurate, and secured in place.

3.02 PREPARATION

A. FIELD MEASUREMENTS

1. Verify prior to fabrication.
2. 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 walking on roofing panels 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. PANELS**

1. Install per approved Submittal Drawings and Manufacturer's installation procedures.
2. Panel-to-panel connections: [Choose one connection method from below]
 - RollLok method, hand seam panels at clips, do not field seam
 - TripleLok method, field seam panels using manufacturer's seaming tool.
 - QuadLok method, field seam panels using two different sets of rolls on manufacturer's seaming tool.
3. Remove any strippable protective film prior to installation and in any case, do not allow the strippable film coating to remain on the panels in extreme heat, cold, or in direct sunlight or other UV source.

B. ALLOWABLE ERECTION TOLERANCE

1. Maximum Alignment Variation: 1/4 inch in 40 feet.

C. FLASHING

1. The panels shall be fixed at the eave. The ridge and rake assemblies shall be designed to allow the roof panels to move lengthwise with expansion/contraction for panel temperature changes up to a minimum of 150°. Panel end laps shall not be attached to the substructure to allow for thermal movement.
2. Discrepancies between job site conditions and drawings as approved shall be brought to the attention of the Architect or Architect's Representative.

D. CUTTING AND FITTING

1. Neat, square and true. Torch cutting is prohibited.
2. Openings 6 inches and larger in any direction: Shop fabricate and reinforce to maintain original load capacity.
3. Debur cut edge where necessary to saw-cut panel.

3.04 CLEAN UP AND CLOSE OUT**A. PANEL DAMAGE AND FINISH SCRATCHES**

1. Do not apply touch-up paint to damaged paint areas that involve minor scratches.
2. Panels or flashings that have severe paint and/or substrate damage shall be replaced as directed by the Architect's or Owner's representative.

Note: AEP Span does not recommend touch-up painting of damaged surfaces (minor scratches, etc.) due to fading and weathering differences of the touch-up paints in comparison to factory applied paint system.

B. CLEANING AND REPAIRING

1. At completion of each day's work and at work completion, sweep 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.

END OF SECTION

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