IMPORTANT NOTICE

READ THIS MANUAL COMPLETELY PRIOR TO BEGINNING THE INSTALLATION OF THE MasterLine 16® WALL SYSTEM. MBCI DETAILS MUST BE FOLLOWED AS A MINIMUM TO INSURE APPROPRIATE WARRANTIES WILL BE ISSUED.

ALWAYS INSPECT EACH AND EVERY PANEL AND ALL ACCESSORIES BEFORE INSTALLATION. NEVER INSTALL ANY PRODUCT IF ITS QUALITY IS IN QUESTION. NOTIFY MBCI IMMEDIATELY IF ANY PRODUCT IS BELIEVED TO BE OUT OF TOLERANCE OR HAS BEEN DAMAGED DURING SHIPMENT.

IF THERE IS A CONFLICT BETWEEN APPROVED ERECTION DRAWINGS PROVIDED OR APPROVED BY MBCI AND THE DETAILS IN THIS MANUAL, THE PROJECT ERECTION DRAWINGS WILL TAKE PRECEDENCE.

Architectural panels with wide, flat areas are inherently difficult to install without some oil canning being exhibited. As such, these panels should be installed over a true, well-aligned substructure. Extreme care is required and special installation techniques may be necessary, such as crowning the panels with a material like a foam backer rod to prevent or reduce oil canning.

The Engineering data contained herein is for the expressed use of customers and design professionals. Along with this data, it is recommended that the design professional have a copy of the most current version of the North American Specification for the Design of Cold-Formed Steel Structural Members published by the American Iron and Steel Institute to facilitate design. This Specification contains the design criteria for cold-formed steel components. Along with the Specification, the designer should reference the most current building code applicable to the project jobsite in order to determine environmental loads. If further information or guidance regarding cold-formed design practices is desired, please contact the manufacturer.

Descriptions and specifications contained herein were in effect at the time this publication was approved for printing. In a continuing effort to refine and improve products, MBCI reserves the right to discontinue products at any time or change specifications and/or designs without incurring obligation. To ensure you have the latest information available, please inquire or visit our website at www.mbci.com. Application details are for illustration purposes only and may not be appropriate for all environmental conditions, building designs or panel profiles. Projects should be designed to conform to applicable building codes, regulations and accepted industry practices. If there is a conflict between this manual and project erection drawings, the erection drawings will take precedence.

For complete performance specifications, product limitations and disclaimers, please consult MBCI’s Paint and Galvalume Plus® warranties. Upon receipt of payment in full, these warranties are available upon request for all painted or Galvalume Plus®, prime products. Sample copies can be found at www.mbci.com or contact your local MBCI Sales Representative.
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I. Pre-Order
   A. Prior to ordering panels, all dimensions should be confirmed by field measurements.

II. Jobsite Storage and Handling
   A. Check the shipment against the shipping list.
   B. Damaged material must be noted on Bill of Lading.
   C. Panels should be handled carefully. A spreader bar of appropriate length is recommended for hoisting.
   D. Check to see that moisture has not formed inside the bundles during shipment. If moisture is present, panels should be wiped dry, then restacked and loosely covered so that air can circulate between the panels.

III. Application Checklist
   A. Check substructure for proper alignment and uniformity to avoid panel distortion.
   B. Periodic check of panel alignment is crucial to proper panel installation.
   C. When installing panels over blanket insulation, it may be necessary to push middle of panel in as clips and fasteners are installed to maintain a consistent flat surface along the wall.
   D. Keep panels clean during installation. Do not allow panels to come into contact with or water runoff from lead, copper, or graphite.
GENERAL INFORMATION

GENERAL DESCRIPTION

Coverage Width - 16”
Panel Attachment - Fastener Leg
Panel Substrate - Galvalume Plus®
Panel Finish - Smooth (standard) or Embossed (optional for 24 & 22 gauge only)
Gauge - 24, 22, 20 and 18

PRODUCT SELECTION CHART

<table>
<thead>
<tr>
<th></th>
<th>Galvalume Plus®</th>
<th>Signature® 300*</th>
<th>Signature® 300* Metallic</th>
<th>Signature® 200*</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 gauge</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>22 gauge</td>
<td>●</td>
<td>■</td>
<td>■</td>
<td>■</td>
</tr>
<tr>
<td>20 gauge</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
</tr>
<tr>
<td>18 gauge</td>
<td>■</td>
<td>■</td>
<td>■</td>
<td>■</td>
</tr>
</tbody>
</table>

Signature is a registered trademark of NCI Group, Inc. Galvalume Plus is a registered trademark of BIEC International.

● — Available in any quantity.
■ — Minimum quantity may be required.

*See architectural color chart for available colors.

NOTICE
Conact MBCI for Positive and Negative Wind Load information.
1. MasterLine 16® architectural wall panel is a concealed fastener panel designed to be used in horizontal or vertical applications.

2. Panel coverage is 16” and panels are available in 24, 22, 20 and 18 gauge thicknesses. Heavier gauges and embossing minimizes oil canning. Oil canning is not a cause for rejection.

3. Panels may be ordered with factory applied mastic to achieve ratings shown on page ML-7 for ASTM E283 and E331 Air and Water Leakage.

4. Wall framing must be plumb and square and in plane (± ¼” in 20’). Depending upon the panel end detail selected, double studs may be required at panel end laps.

5. The panel face will be protected with strippable film. Exposure to sunlight for an extended period of time (over one week) may cause the strippable film to aggressively adhere to the metal and become difficult or impossible to remove. Strippable film should always be removed from panels as they are installed.

6. Panels may be installed over a wide variety of substrates. Panels can be applied over concrete and masonry walls by using sub girts. Panels can also be applied over bare studs, plywood, continuous insulation and various types of sheathing. Substrate material must be in plane (¼” in 20’). Any inconsistencies or misalignment at sheathing seams may telegraph through the panels.

7. For continuous panel runs over 35’, please inquire.
MASTERLINE 16” 24 GA. NEGATIVE DESIGN LOADS (psf)

<table>
<thead>
<tr>
<th>Span</th>
<th>Negative Design Load</th>
<th>Positive Design Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.00</td>
<td>70.20</td>
<td>156.00</td>
</tr>
<tr>
<td>2.50</td>
<td>65.87</td>
<td>145.60</td>
</tr>
<tr>
<td>3.00</td>
<td>61.54</td>
<td>135.20</td>
</tr>
<tr>
<td>3.50</td>
<td>57.20</td>
<td>124.80</td>
</tr>
<tr>
<td>4.00</td>
<td>52.87</td>
<td>114.40</td>
</tr>
<tr>
<td>4.50</td>
<td>48.54</td>
<td>104.00</td>
</tr>
<tr>
<td>5.00</td>
<td>44.20</td>
<td>93.60</td>
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<tr>
<td>5.50</td>
<td>39.87</td>
<td>83.20</td>
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<tr>
<td>6.00</td>
<td>35.54</td>
<td>72.80</td>
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<tr>
<td>6.50</td>
<td>31.20</td>
<td>62.40</td>
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<tr>
<td>7.00</td>
<td>26.87</td>
<td>52.00</td>
</tr>
<tr>
<td>7.50</td>
<td>22.54</td>
<td>41.60</td>
</tr>
<tr>
<td>8.00</td>
<td>18.20</td>
<td>31.20</td>
</tr>
</tbody>
</table>

Notes:
1) The above loads were derived from uplift tests done in accordance with ASTM E-1592.
2) Test results are highlighted.
3) All values are interpolated and/or extrapolated from tests performed at spans of 2’-0” and 8’-0”.
4) Design Load contains a 2.00 factor of safety.
5) These values do not consider fastener pullout or pullover, clip attachment must be designed separately.
6) The use of any accessories including but not limited to clips, fasteners, and support plates (eave, backup, rake, etc.) other than those provided by the manufacturer may damage panels, void all warranties and will void all engineering data.
7) This material is subject to change without notice. Please contact MBCI for most current data.

Effective Date: September 23, 2014

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## PRODUCT CHECKLIST

### MasterLine 16® Panel

![Diagram of MasterLine 16® Panel]

### Outside Corner

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>LENGTH</th>
<th>GIRTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-5505</td>
<td>10'-2&quot;</td>
<td>7&quot;</td>
</tr>
<tr>
<td>T-5506</td>
<td>20'-2&quot;</td>
<td>7&quot;</td>
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</table>

### Inside Corner

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>LENGTH</th>
<th>GIRTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-5507</td>
<td>10'-2&quot;</td>
<td>7&quot;</td>
</tr>
<tr>
<td>T-5508</td>
<td>20'-2&quot;</td>
<td>7&quot;</td>
</tr>
</tbody>
</table>

### Base Trim

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>LENGTH</th>
<th>GIRTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-5534</td>
<td>10'-2&quot;</td>
<td>4½&quot;</td>
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</tbody>
</table>

### Support Zee

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>LENGTH</th>
<th>GIRTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-5526</td>
<td>10'-2&quot;</td>
<td>2¼&quot;</td>
</tr>
</tbody>
</table>

### Cee Closure

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>LENGTH</th>
<th>GIRTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-5510</td>
<td>10'-2&quot;</td>
<td>5½&quot;</td>
</tr>
</tbody>
</table>

### Jamb/Sill Case Trim

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>LENGTH</th>
<th>GIRTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-5517</td>
<td>10'-2&quot;</td>
<td>6&quot;</td>
</tr>
</tbody>
</table>
PRODUCT CHECKLIST

Flat Splice Trim

- **Color**: [ ]
- **Part No.**:
  - T-5520: 10'-2" 5" [ ]
  - T-5521: 14'-0" 5" [ ]

Reveal Splice Trim

- **Color**: [ ]
- **Part No.**:
  - T-5523: 10'-2" 7½" [ ]
  - T-5524: 14'-0" 7½" [ ]

Panel Cleat

- **Color**: [ ]
- **Part No.**:
  - T-5530: 10'-2" 3½" [ ]

Head Trim

- **Color**: [ ]
- **Part No.**:
  - T-5511: 3'-6" 6¼" [ ]
  - T-5513: 10'-4" 6¼" [ ]
  - T-5515: 14'-4" 6¼" [ ]

Sheathing Support Angle

- **Use with ½"-1" or 3½"-4" Thick Sheathing**
- **18 Gauge Galvanized**
- **Color**: [ ]
- **Part No.**:
  - HW-4651 [ ]

Sheathing Support Angle

- **Use with 1½"-2" or 2½"-3" Thick Sheathing**
- **18 Gauge Galvanized**
- **Color**: [ ]
- **Part No.**:
  - HW-4652 [ ]

Door Jamb Cleat

- **Color**: [ ]
- **Part No.**:
  - T-5540: 10'-2" 3" [ ]

Two Piece Jamb Trim

- **Color**: [ ]
- **Part No.**:
  - T-5541: 1½" ¼" 10'-2" 4½" [ ]
  - T-5542: 1¾" 3/8" 10'-2" 5" [ ]
  - T-5543: 2" 1" 10'-2" 5½" [ ]
  - T-5544: 2½" 1½" 10'-2" 5¼" [ ]
  - T-5545: 3" 2" 10'-2" 6½" [ ]
## General Information

### Product Checklist

<table>
<thead>
<tr>
<th>Outside Closure - Metal</th>
<th>Outside Closure - Foam</th>
<th>1/2&quot; x 3/8&quot; Tape Sealant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left Closure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right Closure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HW-4067LH</td>
<td>HW-433</td>
<td>HW-507</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tube Sealant</th>
<th>Fastener #4A</th>
<th>Fastener #14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urethane HW-540</td>
<td>1/4&quot; x 14 x 7/8&quot; Lap</td>
<td>1/8&quot; x 0.337&quot; Pop Rivet</td>
</tr>
<tr>
<td>Non-Skinning Butyl HW-549</td>
<td>5/6&quot; Hex Washer Head w/EDPM Washer</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fastener #12A</th>
<th>Fastener #17B</th>
<th>Fastener #28</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 x 11 x 1&quot; Pancake head with #3 Drill Point #2 Quadrex Drive</td>
<td>12-14 x 1 1/2&quot; with #3 Drill Point 5/6&quot; Hex Washer Head with EDPM Washer</td>
<td>12-14 x 2&quot; with #2 Drill Point 5/6&quot; Hex Washer Head with EDPM Washer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fastener #209</th>
<th>Fastener #210</th>
<th>Fastener #211</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 - 10 x 2&quot; Deck Screw #3 Phillips Truss Head</td>
<td>14 - 10 x 3&quot; Deck Screw #3 Phillips Truss Head</td>
<td>14 - 10 x 4&quot; Deck Screw #3 Phillips Truss Head</td>
</tr>
</tbody>
</table>
PART 1 - GENERAL

1.1 SECTION INCLUDES
A. Ribbed-profile, concealed fastener metal wall panels, with related metal trim, and accessories.

1.2 RELATED REQUIREMENTS
Specifier: If retaining this optional article, edit list below to correspond to Project.
A. Division 01 Section “Sustainable Design Requirements” for related LEED general requirements.
B. Division 05 Section “Structural Steel Framing” for steel framing supporting metal panels.
C. Division 05 Section “Cold-Formed Metal Framing” for cold-formed metal framing supporting metal panels.
D. Division 07 Section “Thermal Insulation” for thermal insulation installed behind metal panels.
E. Division 07 Section “Air Barriers” for air barriers within wall assembly and adjacent to wall assembly.
F. Division 07 Section “Metal Soffit Panels” for soffit panels installed with metal wall panels.
G. Division 07 Section “Sheet Metal Flashing and Trim” for sheet metal flashing items in addition to items specified in this Section.
H. Division 13 Section “Metal Building Systems” for steel framing supporting metal panels.

1.3 REFERENCES
Specifier: If retaining this optional article, edit list below to correspond to Project.
A. American Architectural Manufacturer’s Association (AAMA): www.aamanet.org:
   1. AAMA 621 - Voluntary Specifications for High Performance Organic Coatings on Coil Coated Architectural Hot Dipped Galvanized (HDG) & Zinc-Aluminum Coated Steel Substrates.
   2. AAMA 809.2 Voluntary Specification Non-Drying Sealants.
B. American Society of Civil Engineers (ASCE): www.asce.org/codes-standards:
C. ASTM International (ASTM): www.astm.org:
D. International Accreditation Service (IAS):
   1. IAS AC472 Accreditation Criteria for Inspection Programs for Manufacturers of Metal Building Systems, Part B.
E. US Green Building Council (USGBC): www.usgbc.org:

1.4 QUALITY ASSURANCE
A. Manufacturer/Source: Provide metal panel assemblies and accessories from a single manufacturer accredited under IAS AC472, Part B.
B. Manufacturer Qualifications: Approved manufacturer listed in this Section with minimum five years experience in manufacture of similar products in successful use in similar applications.
Specifier: Retain paragraph below if Owner allows substitutions but requires control over qualifying of substituted manufacturers.
1. Approval of Comparable Products: Submit the following in accordance with project substitution requirements, within time allowed for substitution review:
   a. Product data, including certified independent test data indicating compliance with requirements.
   b. Samples of each component.
   c. Sample shop drawings from similar project.
   d. Project References: Minimum of five installations not less than three years old, with Owner and Architect contact information.
   e. Sample warranty.
   f. Certificate of accreditation under IAS AC472 Part B.
2. Substitutions following award of contract are not allowed except as stipulated in Division 01 General Requirements.
3. Approved manufacturers must meet separate requirements of Submittals Article.

C. Installer Qualifications: Experienced Installer with minimum of five years experience with successfully completed projects of a similar nature and scope.
1. Installer’s Field Supervisor: Experienced mechanic supervising work on site whenever work is underway.

Specifier: Retain paragraph below and edit as appropriate for Federal projects and for public works projects utilizing Federal funds; consult with project Contracting Officer. Coordinate with Submittals Article.

D. Buy American Compliance: Materials provided under work of this Section shall comply with the following requirements:

E. Steel Construction Publications: Comply with published recommendations in the following, unless more stringent requirements are indicated.

1.5 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Prior to erection of framing, conduct preinstallation meeting at site attended by Owner, Architect, metal panel installer, metal panel manufacturer’s technical representative, inspection agency and related trade contractors.
1. Coordinate building framing in relation to metal panel system.
2. Coordinate openings and penetrations of metal panel system.
3. Coordinate work of Division 07 Sections “Roof Specialties” and “Roof Accessories” and openings and penetrations and manufacturer’s accessories with installation of metal panels.

1.6 ACTION SUBMITTALS

A. Product Data: Manufacturer’s data sheets for specified products. Include data indicating compliance with performance requirements.
Specifier: Retain and edit below to comply with Project requirements for LEED or other sustainable design requirements.
B. LEED Submittals:
1. Credit MR 4 Recycled Content: Product data indicating the following:
   a. Material costs for each product having recycled content.
   b. Percentages by weight of post-consumer and pre-consumer recycled content for each item.
   c. Total weight of products provided.
2. Credit IEQ 4.1 Low-Emitting Materials - Adhesives and Sealants: Product data for sealants and sealant primers used inside the weatherproofing system, indicating VOC content.

C. Shop Drawings: Show layouts of metal panels. Include details of each condition of installation, panel profiles, and attachment to building. Provide details at a minimum scale 1-1/2-inch per foot of edge conditions, joints, fastener and sealant placement, flashings, openings, penetrations, and special details. Make distinctions between factory and field assembled work.
1. Indicate points of supporting structure that must coordinate with metal panel system installation.
2. Include structural data indicating compliance with performance requirements and requirements of local authorities having jurisdiction.

D. Samples for Initial Selection: For each exposed product specified including sealants. Provide representative color charts of manufacturer’s full range of colors.

E. Samples for Verification: Provide 12-inch- (305 mm-) long section of each metal panel profile. Provide color chip verifying color selection.

1.7 INFORMATIONAL SUBMITTALS

A. Product Test Reports: Indicating compliance of products with requirements.
B. Qualification Information: For Installer firm and Installer’s field supervisor.
C. IAS Accreditation Certificate: Indicating that manufacturer is accredited under provisions of IAS AC472 Part B.
D. Buy American Certification: Manufacturers’ letters of compliance acceptable to authorities having jurisdiction, indicating that products comply with requirements.
F. Manufacturer’s warranty: Unexecuted sample copy of manufacturer’s warranty.

1.8 CLOSEOUT SUBMITTALS

A. Maintenance data.
B. Manufacturer’s Warranty: Executed copy of manufacturer’s warranty.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Protect products of metal panel system during
shipping, handling, and storage to prevent staining, denting, deterioration of components or other damage. Protect panels and trim bundles during shipping.

1. Deliver, unload, store, and erect metal panels and accessory items without misshaping panels or exposing panels to surface damage from weather or construction operations.
2. Store in accordance with Manufacturer’s written instruction. Provide wood collars for stacking and handling in the field.
3. Shield foam insulated metal panels from direct sunlight until installation.

1.10 WARRANTY
Specifier: Warranty terms below are available from MBCI. Verify that other allowable manufacturers furnish warranty meeting requirements.

A. Special Manufacturer’s Warranty: On manufacturer’s standard form, in which manufacturer agrees to repair or replace metal panel assemblies that fail in materials and workmanship within [one] year from date of Substantial Completion.
B. Special Panel Finish Warranty: On Manufacturer’s standard form, in which Manufacturer agrees to repair or replace metal panels that evidence deterioration of factory-applied finish within the warranty period, as follows:

Specifier: Retain finish warranty paragraph that corresponds to selected metal panel finish system. Several exotic and metallic colors are available from MBCI with limited warranty periods; verify warranty period for selected colors with manufacturer.

1. Fluoropolymer Two-Coat System:
   b. Color fading in excess of 5 Hunter units per ASTM D2244.
   c. Chalking in excess of No. 8 rating per ASTM D4214.
   d. Failure of adhesion, peeling, checking, or cracking.
   e. Warranty Period: [40] years from date of Substantial Completion.
2. Modified Silicone-Polyester Two-Coat System:
   b. Color fading in excess of 7 Hunter units per ASTM D2244.
   c. Chalking in excess of No. 6 rating per ASTM D4214.
   d. Failure of adhesion, peeling, checking, or cracking.
   e. Warranty Period: [30] years from date of Substantial Completion.

2.2 PERFORMANCE REQUIREMENTS
A. General: Provide metal panel system meeting performance requirements as determined by application of specified tests by a qualified testing facility on manufacturer’s standard assemblies.
Specifier: “Recycled Content” Paragraph below describes calculation utilized for LEED-NC Credit MR 4. Modify as required to meet project recycled content requirements, or delete if recycled content requirements are stipulated solely in Division 01 Section “Sustainable Design Requirements.”

B. Recycled Content: For Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than [25] percent.

C. Structural Performance: Provide metal panel assemblies capable of withstanding the effects of indicated loads and stresses within limits and under conditions indicated, as determined by ASTM E1592:
Specifier: Consult structural engineer and edit below as required by local codes. Insert structural data below if not indicated on drawings. Select applicable deflection limit.
1. Wind Loads: Determine loads based on uniform pressure, importance factor, exposure category, and basic wind speed indicated on drawings.
   a. Wind Negative Pressure: Certify capacity of metal panels by actual testing of proposed assembly.
2. Deflection Limits: Withstand inward and outward wind-load design pressures in accordance with applicable building code with maximum deflection of 1/120 of the span with no evidence of failure.

D. Florida State Building Code Compliance: Provide metal roof and wall panels complying with requirements for installation under Florida State Building Code outside of high velocity wind zone.

E. Wall Panel Air Infiltration, ASTM E283:
   1. Maximum 0.002 cfm/sq. ft. (0.010 L/s per sq.m) at static air pressure difference of 6.24 lbf/sq. ft. (300 Pa.)
   2. Maximum 0.003 cfm/sq. ft. (0.015 L/s per sq.m) at static air pressure difference of 12 lbf/sq. ft. (575 Pa.)
F. Wall Panel Water Penetration Static Pressure, ASTM E331: No uncontrolled water penetration at a static pressure of 20 lbf/sq. ft. (958 Pa).

G. Thermal Movements: Allow for thermal movements from variations in both ambient and internal temperatures. Accommodate movement of support structure caused by thermal expansion and contraction. Allow for deflection and design for thermal stresses caused by temperature differences from one side of the panel to the other.

2.3 FORMED METAL WALL PANELS

A. Ribbed-Profile, Concealed Fastener Metal Wall Panels: Structural metal panels consisting of formed metal sheet with fastener leg for concealed attachment to wall framing.

1. Basis of Design: MBCI, ?


2. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A792/A792M, structural quality, Grade 50, Coating Class AZ50 (Grade 340, Coating Class AZM150), prepainted by the coil-coating process per ASTM A755/A755M.

Specifier: Prior to selecting metal thickness and panel thickness below, consult manufacturer’s span tables and review selection against panel thickness requirements and span condition. Select appropriate panel configuration to meet requirements of design wind pressure. Important: Consult this document when specifying gauge with the intent that it meet a prescriptive decimal thickness requirement in addition to strength performance requirements. (Click Here to View)

a. Nominal Thickness: [24 gauge] [22 gauge] [20 gauge] [18 gauge] coated thickness, with [smooth] [stucco embossed] surface.

1) Exterior Finish: [Modified silicone-polyester two-coat system] [Fluoropolymer two-coat system] [Fluoropolymer two-coat metallic color system] [Exposed Galvalume Plus coating].

2) Color: [As indicated] [As selected by Architect from manufacturer’s standard colors] [Match Architect’s custom color].

3. Panel Width: 16 inches (406 mm).

4. Panel Thickness: 7/8 inch (22 mm).

2.4 MISCELLANEOUS MATERIALS

A. General: Provide complete metal panel assemblies incorporating trim, copings, fasciae, gutters and downspouts, and miscellaneous flashings. Provide required fasteners, closure strips, and sealants as indicated in manufacturer’s written instructions.

B. Flashing and Trim: Match material, thickness, and finish of metal panels.

C. Panel Fasteners: Self-tapping screws and other acceptable fasteners recommended by metal panel manufacturer. Where exposed fasteners cannot be avoided, supply corrosion-resistant fasteners with heads matching color of metal panels by means of factory-applied coating, with weathertight resilient washers.

D. Panel Sealants:

1. VOC Content of Interior Sealants: Sealants used inside the weatherproofing system shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

a. Architectural Sealants: 250 g/L.


5. Foam Tape: Manufacturer’s standard self-adhering type.

2.5 FABRICATION

A. General: Provide factory fabricated and finished metal panels, trim, and accessories meeting performance requirements, indicated profiles, and structural requirements.

B. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer’s written instructions, approved shop drawings, and project drawings.

2.6 FINISHES

A. Finishes, General: Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers’ written instructions.

B. Modified Silicone-Polyester Two-Coat System: 0.20 – 0.25 mil primer with 0.7 – 0.8 mil color coat, [meeting solar reflectance index requirements].


Specifier: MBCI’s fluoropolymer coatings are based on Arkema, Inc. Kynar 500 and Solvay Solexis Hylar 500 PVF2 resins.

C. Fluoropolymer Two-Coat System: 0.2 – 0.3 mil primer with 0.7 – 0.8 mil 70 percent PVDF fluoropolymer color coat, AAMA 621, [meeting solar reflectance index requirements].

1. Basis of Design: MBCI, Signature 300.
PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine metal panel system substrate with Installer present. Inspect for erection tolerances and other conditions that would adversely affect installation of metal panels.

1. Inspect framing that will support insulated metal panels to determine if support components are installed as indicated on approved shop drawings and are within tolerances acceptable to metal panel manufacturer and installer. Confirm presence of acceptable framing members at recommended spacing to match installation requirements of metal panels.

B. Correct out-of-tolerance work and other deficient conditions prior to proceeding with insulated metal panel installation.

3.2 METAL PANEL INSTALLATION

A. Concealed-Fastener Formed Metal Panels: Install metal panel system in accordance with manufacturer’s written instructions, approved shop drawings, project drawings, and referenced publications. Install metal panels in orientation, sizes, and locations indicated. Anchor panels and other components securely in place. Provide for thermal and structural movement.

B. Fasten metal panels to supports with fasteners at each location indicated on approved shop drawings, at spacing and with fasteners recommended by manufacturer. Fasten panel to support structure through leading flange. Snap-fit back flange of subsequent panel into secured flange of previous panel.

1. Cut panels in field where required using manufacturer’s recommended methods.

2. Dissimilar Materials: Where elements of metal panel system will come into contact with dissimilar materials, treat faces and edges in contact with dissimilar materials as recommended by metal panel manufacturer.

C. Attach panel flashing trim pieces to supports using recommended fasteners and joint sealers.

D. Joint Sealers: Install liquid sealants where indicated and where required for waterproof performance of metal panel assemblies.

1. Seal panel base assembly, openings, panel head joints, and perimeter joints using joint sealers indicated in manufacturer’s instructions.

2. Seal perimeter joints between window and door openings and adjacent panels using elastomeric joint sealer.

3. Prepare joints and apply sealants per requirements of Division 07 Section “Joint Sealants.”

3.3 ACCESSORY INSTALLATION

A. General: Install metal panel accessories with positive anchorage to building and weather tight mounting; provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install components required for a complete metal panel assembly, including trim, copings, flashings, sealants, closure strips, and similar items.

2. Comply with details of assemblies utilized to establish compliance with performance requirements and manufacturer’s written installation instructions.

3. Set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently weather resistant.

3.4 CLEANING AND PROTECTION

A. Clean finished surfaces as recommended by metal panel manufacturer.

B. Replace damaged panels and accessories that cannot be repaired to the satisfaction of the Architect.

END OF SECTION
DETAILS

PANEL ATTACHMENT

14-10 DECK SCREW
AIR AND WATER BARRIER (NOT BY MBCI)
SHEATHING (AS SPECIFIED)
WALL STUD

14-10 DECK SCREW
FACTORY MASTIC (WHEN SPECIFIED)
SHEATHING (AS SPECIFIED)
AIR AND WATER BARRIER (NOT BY MBCI)
MASTERLINE 16® PANEL

MASTERLINE 16® PANEL
BASE DETAIL WITH ANGLE

- **WALL STUD**
- **BASE TRIM (T-5534)**
- **14-10 DECK SCREW @ 2'-0" O.C.**
- **PANCAKE HEAD FASTENER #12A @ 24" O.C.**
- **URETHANE SEALANT**
- **CONCRETE FLOOR**
- **SHEATHING SUPPORT ANGLE (18 GAUGE)**
- **SHEATHING (AS SPECIFIED)**
- **AIR AND WATER BARRIER (NOT BY MBCI)**
- **PANEL CLEAT (T-5530)**
BASE DETAIL WITH SHEATHING NOTCH

- MasterLine 16® PANEL
- SHEATHING (AS SPECIFIED)
- AIR AND WATER BARRIER (NOT BY MBCI)
- BASE TRIM (T-5534)
- URETHANE SEALANT
- WALL STUD
- CONC. FLOOR
- 14-10 DECK SCREW @ 2'-0" O.C.
- PANEL CLEAT (T-5530)
OUTSIDE CORNER DETAIL

- WALL STUD
- MasterLine 16® PANEL
- FASTENER #14 @ 2'-0" O.C.
- 14-10 DECK SCREW
- SHEATHING (AS SPECIFIED)
- LEFT HAND METAL CLOSURE (OPTIONAL) ATTACH WITH (4) RIVETS PER PANEL (HW-4067LH)
- AIR AND WATER BARRIER (NOT BY MBCI)
- CEE CLOSURE (T-5510)
- OUTSIDE CORNER TRIM (T-5506)
- FOAM OUTSIDE CLOSURE (HW-433)
- RIGHT HAND METAL CLOSURE (OPTIONAL) ATTACH WITH (4) RIVETS PER PANEL (HW-4067RH)
- LEFT HAND METAL CLOSURE (OPTIONAL) ATTACH WITH (4) RIVETS PER PANEL (HW-4067LH)
- AIR AND WATER BARRIER (NOT BY MBCI)
- RIGHT HAND METAL CLOSURE (OPTIONAL) ATTACH WITH (4) RIVETS PER PANEL (HW-4067RH)
- FASTENER #14 @ 2'-0" O.C.
- SHEATHING (AS SPECIFIED)
- MasterLine 16® PANEL
- FOAM OUTSIDE CLOSURE (HW-433)
- LEFT HAND METAL CLOSURE (OPTIONAL) ATTACH WITH (4) RIVETS PER PANEL (HW-4067LH)
- CEE CLOSURE (T-5510)
- OUTSIDE CORNER TRIM (T-5506)
INSIDE CORNER DETAIL

14-10 DECK SCREW

SHEATHING (AS SPECIFIED)

AIR AND WATER BARRIER (NOT BY MBCI)

LEFT HAND METAL CLOSURE (OPTIONAL) ATTACH WITH (4) RIVETS PER PANEL (HW-4067LH)

INSIDE CORNER TRIM

FASTENER #14 @ 2'-0" O.C.

RIGHT HAND METAL CLOSURE (OPTIONAL) ATTACH WITH (4) RIVETS PER PANEL (HW-4067RH)

MasterLine 16" PANEL

WALL STUD

FOAM OUTSIDE CLOSURE

CEE CLOSURE

LEFT HAND METAL CLOSURE (OPTIONAL) ATTACH WITH (4) RIVETS PER PANEL (HW-4067LH)

SHEATHING (AS SPECIFIED)

MasterLine 16" PANEL

WALL STUD

FASTENER #14 @ 2'-0" O.C.

RIGHT HAND METAL CLOSURE (OPTIONAL) ATTACH WITH (4) RIVETS PER PANEL (HW-4067RH)

CEE CLOSURE

AIR AND WATER BARRIER (NOT BY MBCI)

INSIDE CORNER TRIM

FASTENER #14 @ 2'-0" O.C.
### PARAPET DETAIL

**Finish in High**

- **MasterLine 16® PANEL**
- **SHEATHING (AS SPECIFIED)**
- **AIR AND WATER BARRIER (NOT BY MBCI)**
- **14-10 DECK SCREW**
- **PARAPET CAP**
- **FASTENER #14 @ 12" O.C.**
- **SUPPORT ZEE (T-5526)**
- **FASTENER #4A @ 12" O.C.**
- **WALL STUD**
- **BACKER PANEL**

**Finish in Low**

- **MasterLine 16® PANEL**
- **SHEATHING (AS SPECIFIED)**
- **AIR AND WATER BARRIER (NOT BY MBCI)**
- **14-10 DECK SCREW**
- **PARAPET CAP**
- **FASTENER #14 @ 12" O.C.**
- **SUPPORT ZEE (T-5526)**
- **FASTENER #4A @ 12" O.C.**
- **WALL STUD**
- **BACKER PANEL**
EAVE WITH BOX TRIM

FINISH IN LOW

FINISH IN HIGH

INSIDE CLOSURE & SEALANTS

14-10 DECK SCREW

EAVE TRIM (T-5143)

FASTENER #14 @ 12" O.C.

SHEATHING (AS SPECIFIED)

AIR AND WATER BARRIER (NOT BY MBCI)

ROOF PANEL

INSIDE CLOSURE & SEALANTS

WALL STUD

MasterLine 16® PANEL

SHEATHING (AS SPECIFIED)

AIR AND WATER BARRIER (NOT BY MBCI)


**MasterLine 16®**

**DETAILS**

**EAVE WITH BOX GUTTER**

- **GUTTER STRAP** (T-5281) @
- **FASTENER #14** (2) PER STRAP
- **BOX GUTTER** (T-5261)

**FINISH IN LOW**

- **INSIDE CLOSURE & SEALANTS**
- **ROOF PANEL**
- **14-10 DECK SCREW**

**FINISH IN HIGH**

- **INSIDE CLOSURE & SEALANTS**
- **ROOF PANEL**
- **WALL STUD**

**MasterLine 16® PANEL**

- **SHEATHING** (AS SPECIFIED)
- **AIR AND WATER BARRIER** (NOT BY MBCI)

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SUBJECT TO CHANGE WITHOUT NOTICE

SEE [www.mbci.com](http://www.mbci.com) FOR CURRENT INFORMATION

REV 00.03 ML-23
RAKE WITH BOX TRIM

- RAKE TRIM (T-5233)
- FASTENER #14 @ 12" O.C.
- 14-10 DECK SCREW
- WALL STUD
- FASTENERS & TAPE SEALANTS
- ROOF PANEL
- MasterLine 16® PANEL
- SHEATHING (AS SPECIFIED)
- AIR AND WATER BARRIER (NOT BY MBCI)

MasterLine 16® DETAIL

SEE www.mbcicom FOR CURRENT INFORMATION
SUBJECT TO CHANGE WITHOUT NOTICE
DOOR FRAMING DETAILS

SECTION AT HEAD

SECTION AT JAMB

FOAM OUTSIDE CLOSURE SET IN BUTYL TAPE SEALANT

POP RIVET (FASTENER #14)

LEFT HAND METAL CLOSURE (OPTIONAL) WITH (4) RIVETS PER PANEL

TWO PIECE JAMB TRIM

DOOR JAMB

SHEATHING (AS SPECIFIED)

AIR AND WATER BARRIER

WALL STUD

DOOR HEAD

JAMB/SILL CASE TRIM

FOAM OUTSIDE CLOSURE SET IN BUTYL TAPE SEALANT

14 x 10 DECK SCREW

SHEATHING (AS SPECIFIED)

AIR AND WATER BARRIER

WALL STUD

DOOR JAMB

DOOR JAMB CLEAT

HEAD TRIM

WOOD SHEATHING (AS SPECIFIED)

AIR AND WATER BARRIER

14 x 10 DECK SCREW

SHEATHING (AS SPECIFIED)

AIR AND WATER BARRIER

TWO PIECE JAMB TRIM

MASTERLINE 16® PANEL

LEFT HAND METAL CLOSURE (OPTIONAL) WITH (4) RIVETS PER PANEL

RIGHT HAND METAL CLOSURE (OPTIONAL) WITH (4) RIVETS PER PANEL

TWO PIECE JAMB TRIM

MASTERLINE 16® PANEL
MasterLine 16®

DETAILS

DOOR HEAD DETAIL

- AIR AND WATER BARRIER (NOT BY MBCI)
- SHEATHING (AS SPECIFIED)
- MasterLine 16® PANEL
- 14-10 DECK SCREW
- HEAD TRIM
- JAMB/SILL CASE TRIM
- URETHANE SEALANT
- POP RIVET (FASTENER #14)
- WALL STUD

ML-26   REV 00.03   SEE www.mbcicom FOR CURRENT INFORMATION   SUBJECT TO CHANGE WITHOUT NOTICE
MasterLine 16®

DETAILS

DOOR JAMB DETAIL

14-10 DECK SCREW

FASTENER #12A
12 X 1" PANCAKE HEAD S.D.
W/O WASHER AT 5'-0"

DOOR JAMB CLEAT
(T-5540)

WALL STUD

WALK DOOR FRAME
(NOT BY MBCI)

URETHANE SEALANT

FOAM OUTSIDE CLOSURE
SET IN BUTYL TAPE SEALANT

AIR AND WATER BARRIER
(NOT BY MBCI)

SHEATHING
(AS SPECIFIED)

LEFT HAND METAL CLOSURE
(OPTIONAL) ATTACH WITH (4)
RIVETS PER PANEL

POP RIVET
(FASTENER #14)

TWO PIECE JAMB TRIM

MasterLine 16® PANEL

(AS SPECIFIED)
MasterLine 16®

DETAILS

WINDOW FRAMING DETAILS

- MasterLine 16® PANEL
- HEAD TRIM
- FOAM OUTSIDE CLOSURE, SET IN SEALANT, METAL CLOSURE (OPTIONAL) ATTACH WITH (4) RIVETS PER PANEL
- SHEATHING (AS SPECIFIED)
- AIR AND WATER BARRIER (NOT BY MBCI)
- JAMB/SILL CASE TRIM
- POP RIVET @ 12" O.C. JAMB/SILL CASE TRIM
WINDOW SILL DETAILS

FINISH IN HIGH

- SUPPORT ZEE (T-5526)
- SHEATHING (AS SPECIFIED)
- AIR AND WATER BARRIER (NOT BY MBCI)
- MasterLine 16 Panel

FINISH IN LOW

- URETHANE SEALANT (NOT BY MBCI)
- 14-10 DECK SCREW
- POP RIVET (FASTENER #14)
- JAMB/SILL CASE TRIM (T-5517)
- SHEATHING (AS SPECIFIED)
- AIR AND WATER BARRIER (NOT BY MBCI)

WALL STUD
MasterLine 16®

DETAILS

WINDOW JAMB DETAIL

WALL STUD

14-10 DECK SCREW

URETHANE SEALANT

FOAM OUTSIDE CLOSURE
SET IN BUTYL TAPE SEALANT

LEFT HAND METAL CLOSURE
(OPTIONAL) ATTACH WITH (4) RIVETS PER PANEL

POP RIVET
(FASTENER #14)

JAMB/SILL CASE TRIM

SHEATHING
(AS SPECIFIED)

AIR AND WATER BARRIER
(NOT BY MBCI)

MasterLine 16® PANEL
MasterLine 16®

DETAILS

WINDOW HEAD DETAIL

AIR AND WATER BARRIER
(NOT BY MBCI)

SHEATHING
(AS SPECIFIED)

WALL STUD

MasterLine 16® Series PANEL

14-10 DECK SCREW

HEAD TRIM
(T-5511)

JAMB/SILL CASE TRIM
(T-5517)

URETHANE SEALANT
(NOT BY MBCI)

POP RIVET
(FASTENER #14)
PANEL LAP

MasterLine 16® PANEL

NON-SKINNING BUTYL (FIELD APPLIED)

14-10 DECK SCREW

SHEATHING (AS SPECIFIED)

AIR AND WATER BARRIER (NOT BY MBCI)

FIELD NOTCH

1 3/16”

FASTENER #14 (AT EACH LOW)

2 1/8”

1”

FIELD NOTCH

FASTENER #14 (AT EACH LOW)

PANEL VIEWED FROM INTERIOR SIDE

PANEL VIEWED FROM EXTERIOR SIDE

NON-SKINNING BUTYL (FIELD APPLIED)
MasterLine 16®

DETAILS

FLAT SPLICE TRIM

WALL STUD

14-10 DECK SCREW

LEFT HAND METAL CLOSURE (OPTIONAL) (HW-4067-LH)

FOAM OUTSIDE CLOSURE SET IN BUTYL TAPE SEALANT

FASTENER #14 @ 2'-0" O.C.

FLAT SPLICE TRIM (T-5521)

SHEATHING (AS SPECIFIED)

MasterLine 16® PANEL

AIR AND WATER BARRIER (NOT BY MBCI)

RIGHT HAND METAL CLOSURE (OPTIONAL) (HW-4067-RH)

NON-SKINNING BUTYL SEALANT

1" MAX

14-10 DECK SCREW
REVEAL SPLICE TRIM

WALL STUD

14-10 DECK SCREW

LEFT HAND METAL CLOSURE (OPTIONAL) (HW-4067-LH)

FOAM OUTSIDE CLOSURE SET IN BUTYL TAPE SEALANT

FASTENER #14 @ 2'-0" O.C.

REVEAL SPLICE TRIM (T-5523)

1½"

SHEATHING (AS SPECIFIED)

MASTERLINE 16" PANEL

AIR AND WATER BARRIER (NOT BY MBCI)

RIGHT HAND METAL CLOSURE (OPTIONAL) (HW-4067-RH)

NON-SKINNING BUTYL SEALANT
MasterLine 16®

DETAILS

TERMINATION

TERMINATING WALL

WALL STUD

14-10 DECK SCREW

FASTENER #12A
12 X 1" PANCAKE HEAD S.D.
W/O WASHER AT 5'-0"

DOOR JAMB CLEAT
(T-5540)

FOAM OUTSIDE CLOSURE
SET IN BUTYL TAPE SEALANT

URETHANE SEALANT

SHEATHING
(AS SPECIFIED)

AIR AND WATER BARRIER
(NOT BY MBCI)

MasterLine 16" PANEL

LEFT HAND
METAL CLOSURE
(OPTIONAL)
ATTACH WITH (4)
RIVETS PER PANEL

POP RIVET
(FASTENER #14)

TWO PIECE JAMB TRIM