SPECIFIER NOTE: The purpose of this guide specification is to assist the specifier in correctly specifying aluminum siding with a digitally printed finish and their installation. The specifier needs to edit the guide specifications to fit the needs of specific projects. Contact MAIBEC to assist in appropriate product selections and for detailing assistance. Red text in brackets indicates a selection needs to be made.



SECTION **07 46 16
ALUMINUM SIDING**

1. GENERAL
	* + 1. SECTION INCLUDES
				1. Digitally printed aluminum siding for exterior and interior horizontal and vertical applications, with primer coat, digitally printed finish and UV Clear Coat
				2. Digitally printed aluminum accessory products including;

[Starter Strips]

[Two-Pieces Corners and Trims]

[Vented Soffit planks]

* + - 1. RELATED SECTIONS
				1. Section 01 74 21 - Construction/Demolition Waste Management and Disposal
				2. Section 05 41 00 - Structural Metal Stud Framing
				3. Section 06 10 00 - Rough Carpentry
				4. Section 06 16 00 - Sheathing
				5. Section 07 20 00 - Thermal Protection
				6. Section 07 25 00 - Weather Barriers
				7. Section 07 60 00 - Flashing and Sheet Metal
				8. Section 07 92 11- Joint Sealants
			2. REFERENCES (The date of the standard is that in effect as of the date of receipt of bids for the project.)
				1. American Society for Testing and Materials (ASTM)

ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials.

ASTM E1592 – Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference.

ASTM E330 – Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

ASTM D6578 – Determination of Graffiti Resistance.

ASTM D3359-B – Measuring Adhesion by Tape Test.

ASTM G155 – Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials.

ASTM B117 – Standard Practice for Operating Salt Spray (Fog) Apparatus.

* + - * 1. Testing Application Standard (TAS)

TAS 202 – Criteria for Testing Impact & Non-impact Resistant Building Envelope Components Using Uniform Static Air Pressure.

TAS 203 – Criteria for Testing Products Subject to Cyclic Wind Pressure.

* + - * 1. American Architectural Manufacturers Association (AAMA) (FGIA)

AAMA 2604 – Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.

AAMA 2605 – Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels.

* + - * 1. Underwriters Laboratories Canada (ULC)

CAN/ULC-S102 – Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

CAN/ULC-S114 – Standard Method of Test for Determination of Non-Combustibility in Building Materials.

* + - * 1. Florida Building Code (FBC)

Florida Product Approval No. FL 22530

* + - * 1. National Fire Protection Association (NFPA)

NFPA 285 – Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components.

* + - 1. PERFORMANCE REQUIREMENTS
				1. Design cladding to span continuously over structural supports with fastening to structural supports to sustain factored loads in accordance with authority having jurisdiction.
				2. Provide system to accommodate thermal movement of components and structural movements to provide an installation free of oil canning, wind rattle, buckling, failure of joint seals, and undue stress on fasteners.
				3. Include expansion joints to accommodate movement in wall system and between wall system and building structure, caused by structural movements, without permanent distortion, damage to infills, racking of joints, breakage of seals, or water penetration.
			2. SUBMITTALS [EDIT AS REQUIRED]
				1. ACTION SUBMITTALS

Product Data: For each type of product, include the following:

Technical data sheet

Installation Instructions

Standard drawing details and application

Aluminum material information

UV Fade Test Reports, by a 3rd Party Testing Agency

Siding and accessory dimension of components and profiles

Digital Style and Color card showing the variation within selected style and color

Samples: Printed siding plank (or printed carton) to match Digital Style and Color card

* + - * 1. INFORMATIONAL SUBMITTALS

Product Test Reports: Submit for each type of aluminum siding [and soffit], tests performed by a qualified testing agency

SPECIFIER NOTE:

When project is pursuing a sustainable rating system, retain Sustainable Design Submittal paragraph and edit to correspond to the specific Project requirements. Modify based on rating system being pursued.

Sustainable Design Submittals:

Sourcing of Raw materials: Building Product Disclosure and Optimization indicating source and extraction.

SPECIFIER NOTE:
Retain "Florida Building Code **Certificate**" for Florida projects or where FBC qualification is used as a standard for high wind design areas.

[Florida Building Code **Supplement**: Documentation indicating that products comply with requirements of the Florida Building Code.]

Sample warranty: For special finish

* + - * 1. CLOSEOUT SUBMITTALS

Maintenance data: For each type of product, including related accessories. Include in Maintenance manuals.

Warranty: Executed copy of the manufacturer’s warranty.

* + - 1. QUALITY ASSURANCE [EDIT AS REQUIRED]
				1. Coordinate requirements with Section 01 45 00 “Quality Control”.
				2. Test Reports: Certified testing reports showing compliance with specified performance characteristics and physical properties, including laboratory reports showing compliance with specified tests and standards.
				3. Installer Qualifications: Engage experienced installer, with a minimum of five years’ experience, who has completed systems similar in material, design, and extent to that indicated for Project and with record of successful performance.
				4. Pre-installation meeting:

Conduct meeting at Project Site [Insert location].

Review project drawings and requirements, manufacturer’s installation instructions, and manufacturer’s warranty requirements.

Review wall framing for potential interference and conflicts; coordinate layout and support provisions for interfacing work.

Review field quality control procedures.

* + - * 1. Mockups: Build mockups to verify selections made and to demonstrate aesthetic effects and to set quality standards for fabrication and installation.

Build mockups for siding [and soffit] including accessories:

Size: 72 square feet, unless noted otherwise.

Include all possible planks style as reference to avoid repetition of pattern.

Include outside corner on one end of mockup and inside corner on opposite end.

Construct a [portion of one exterior wall in location agreed upon by Consultant] [a free-standing mock-up] to establish a standard of construction, workmanship, and appearance.

Construct mock-up indicating relationship between wall cladding, air spaces, air/vapor retarder membrane, windows, and doors.

Do not continue with work of this Section until [Construction Manager,] [Owner,] [Consultant], [Architect,] [Engineer] has approved mock-up.

[Remove freestanding mock-up upon completion of all metal cladding work or when otherwise directed by Consultant.]

[Accepted mock-ups may be incorporated into the work of this Section.]

Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

SPECIFIER NOTE:
Retain "Florida State Building Code Certificate" for Florida projects or where FSBC qualification is used as a standard. The Florida Product Approval number indicated is specific to MAIBEC.

* + - * 1. [Florida Building Code Compliance: Provide siding complying with Florida Building Code product and installation requirements for locations inside and outside of high velocity hurricane zone (HVHZ).]

[Florida Product Approval No. FL 22530 – Maibec.]

* + - * 1. Surface Burning Characteristics: In accordance with ASTM E84

Flame Spread Index: 0

Smoke Developed Index: 0

* + - * 1. UV Fade Test: In accordance with ASTM G155

AATCC Grey Scale rating after 2000 hours: 4 (not noticeable)

* + - * 1. Fire Propagation Characteristics of Exterior Wall Assemblies: In accordance with NFPA 285

Meet Class A (0/0) FSI/SDI

Meet non combustibility

* + - 1. DELIVERY, STORAGE, AND HANDLING
				1. Deliver materials and components in manufacturer’s unopened boxes or pallets, properly labeled, and fully identified by product name and brand. Prevent any damage during unloading, storing, and installation.
				2. Store, protect and handle materials and components in accordance with manufacturer’s recommendations to prevent twisting, bending, mechanical damage, contamination, and deterioration.
				3. Store materials and components off ground and keep clean, dry, and free of dirt and debris. Store away from areas with failing objects or other construction activity that may occur or cause damage.
				4. Stack materials and components horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store materials to ensure dryness, with positive slope for drainage of water. Do not store materials and components in contact with other materials that might cause staining, denting, or other surface damage.
			2. SITE CONDITIONS
				1. Field Measurements: Verify location of structural members and openings in substrates by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the installation.
				2. Undertake installation work only when weather conditions meet manufacturers’ specific environmental requirements and when conditions will permit work to be performed in accordance with manufacturer recommendations and warranty requirements.
			3. WASTE MANAGEMENT AND DISPOSAL [EDIT AS REQUIRED]
				1. Separate waste materials for recycling in accordance with Section 01 74 21 “Waste Management and Disposal”.
				2. Divert used metal cutoffs from landfill by disposal [into the onsite metals recycling bin] [removed for disposal at the nearest metal recycling facility].
				3. Divert reusable materials for reuse at nearest used building materials facility.
				4. Divert unused caulking, sealants, and adhesive materials from landfill through disposal at hazardous material depot.
			4. WARRANTY [EDIT AS REQUIRED]
				1. Manufacturer warrants its aluminum siding and soffits are free of defects in material and workmanship, and when installed and maintained according to the manufacturer’s instructions, the products are guaranteed against corrosion.
				2. Cladding system: 50 Year Warranty from date of Substantial Completion on Extruded Aluminum Profiles, non-prorated.

SPECIFIER NOTE:

Select the appropriate Finish Warranty specific to this project.

* + - * 1. Finish Coating Warranty:

[Digital printed Finish]: “3 layers” finish includes primer, high-definition printed layer and clear protective coating. Finish warranted to have following properties and period:

Resistance to Cracking and Crazing.

Color stability: No change in the color of the finish exceeding 5 (five) CIE Lab units. CIE illuminant D65, measured according to ASTMD2244 Section 6.3.

Gloss Retention: Finish will retain at least 30% of the initial gloss, measured according to ASTM D523.

Adhesion: The finish will not show any detachment inferior to class 4B.

20 Year Warranty from date of Substantial Completion. Pending maintenance of the material and finishes as recommended by the manufacturer.

[Painted Finish]: Finish warranted to have the following properties and period:

Resistance to Cracking and Crazing.

Resistance to Chalking: The finish will not chalk more than a numerical rating of 8.

Color stability: No change in the color of the finish exceeding 5 (five) CIE Lab units. CIE illuminant D65, measured according to ASTMD2244 Section 6.3.

Gloss Retention: Finish will retain at least 30% of the initial gloss, measured according to ASTM D523.

Adhesion: The finish will not peel at a rate inferior to class 4B.

Warranty as per [AAMA 2604] [AAMA 2605] from date of Substantial Completion. Pending maintenance of the material and finishes as recommended by the manufacturer.

See Manufacturer Warranty Sheet for full product and finish warranty details.

Contractor’s Labor Warrantees: Three-year labor warranty, starting from [date of Owner acceptance of completed work] [Substantial Performance], to cover repair of materials found to be defective as a result of installation errors.

1. PRODUCTS
	* + 1. MANUFACTURER
				1. Maibec Inc., 4000 Jean-Marchand Street, Unit 108, Quebec City, Quebec Canada G2C 1Y6. [www.maibec.com](http://www.maibec.com)
			2. MATERIAL
				1. Extruded Aluminum: 6063-T5 alloy in accordance with ASTM B221.
			3. ALUMINUM SIDING [AND SOFFIT] PLANKS [EDIT AS REQUIRED]
				1. General: Provide as recommended by siding manufacturer for building configuration.

SPECIFIER NOTE:

Select the desired profile specific to the project and delete the other indicated profiles. Where more than one profile or size is selected coordinate with drawings for clarity. Not all profiles are available in all exposed face dimensions. Select accordingly.

* + - * 1. "F" Profile: Flat

[**4-F**; Exposed Face: 4 inches (102mm)] [**6-F**; Exposed Face: 6 inches (152mm)]

Minimum metal thickness: 0.062 inch (1.57mm)

[**8-F**; Exposed Face: 8 inches (7.6 inches actual)]

Minimum metal thickness: 0.090 inch (2.30mm)

Plank Length: 16 feet (4876mm)

* + - * 1. "V" Profile: V-Groove

[**3-V**; Exposed Face: 3 inches (76mm)]

Minimum metal thickness: 0.055 inch (1.39mm)

[**4-V**; Exposed Face: 4 inches (102mm)] [**6-V**; Exposed Face: 6 inches (152mm)]

Minimum metal thickness: 0.062 inch (1.57mm)

Plank Length: 16 feet (4876mm)

* + - * 1. "C" Profile: Channel

6-C; Exposed Face: 6 inches (152mm)

Minimum metal thickness: 0.062 inch (1.57mm)

Plank Length: 16 feet (4876mm)

* + - * 1. All extruded aluminum planks’ profiles are complete with a set of 1.5” (38mm) x 0.187” (4.7mm) factory punched oblong screw holes, repeated every 8” (203mm), and complete with an extruded “T” shape reinforcement on the back.
				2. Acceptable Materials: Maibec digitally printed aluminum Siding and Soffit Collections below as manufactured by Maibec® Inc.

[Maibec Classic™]

[Maibec Express™ Aluminium]

[Maibec Iconik™]

[Maibec Infinite™]

* + - * 1. Substitutions: Not Permitted.
				2. Requests for substitutions will be considered in accordance with the guidelines outlined in Section
				01 60 00 “Product requirements”.
			1. ACCESSORIES [EDIT AS REQUIRED]
				1. General: Provide as recommended by siding manufacturer for building configuration.

Accessories shall be made from the same material and matching finish of adjacent siding planks unless otherwise indicated.

SPECIFIER NOTE:

Select the desired accessories specific to the project and delete the other indicated accessories. Where more than one accessory is selected coordinate with drawings for clarity. Select accordingly.

* + - * 1. Extruded Aluminum Accessories: One piece Trim, 12 feet (3657mm) length

Starter Strip

* + - * 1. Extruded Aluminum Accessories: Two (2) Pieces Trim, 12 feet (3657mm) length

[J-Trim - 1 inch]

[J-Trim - 1-3/4 inch]

[H-Trim]

[Outside Corner]

SPECIFIER NOTE:
For inside corners, 1 inch and 1-3/4 inch J-Trims are both required to provide a uniform appearance. Contact MAIBEC representatives for assistance.

[Inside Corner]

SPECIFIER NOTE:
For outside corners with variable angle (other than 90 degrees), use BJTH Trims, which include two (2) J-Trim Base and two (2)
H-Trim Caps. Contact MAIBEC representatives for assistance.

[Outside Corner (Variable Angle)]

SPECIFIER NOTE:
Vented planks provide air circulation for soffits.

Select the desired profile specific to the project and delete the other indicated profiles. Where more than one profile or size is selected coordinate with drawings for clarity. Not all profiles are available in all exposed face dimensions. Select accordingly.

* + - * 1. Aluminum Vented Plank: Soffit type plank with factory punched perforations. Shall be made from the same material and matching finish of adjacent siding planks/accessories unless otherwise indicated.

Profile F: Flat

[4-FV; Exposed Face: 4 inches] [6-FV; Exposed Face: 6 inches]

Minimum metal thickness: 0.062 inch (1.57mm)

Vented Plank Length: 16 feet (4876mm)

Net ventilation of 11.5sq/inches (1.1 sq/meter) per plank

Profile V: V-Groove

[4-VV; Exposed Face: 4 inches] [6-VV; Exposed Face: 6 inches]

Minimum metal thickness: 0.062 inch (1.57mm)

Vented Plank Length: 16 feet (4876mm)

Net ventilation of 11.5sq/inches (1.1 sq/meter) per plank

Profile C: Channel

6-CV; Exposed Face: 6 inches

Minimum metal thickness: 0.062 inch (1.57mm)

Vented Plank Length: 16 feet (4876mm)

Net ventilation of 11.5sq/inches (1.1 sq/meter) per plank

* + - * 1. Flashing: Provide aluminum flashing complying with Section 07 62 00 "Sheet Metal Flashing and Trim" at sill, window and door heads and where indicated.
				2. Fasteners: 1-1/2 inches length, #8 Stainless Steel screw or other types with corrosion resistance suitable for the substrate application and to conditions and environmental exposition, supplied by other manufacturers.

Clip fasteners are not acceptable.

* + - 1. FINISHES [EDIT AS REQUIRED]

SPECIFIER NOTE:
Select the desired siding planks and/or vented soffits finish specific to project and delete the other indicated finish. Where more than one finish is selected coordinate with drawings for clarity. Select accordingly Select accordingly.

* + - * 1. [Digitally Printed Finish]

Primer coat: High quality white UV coating applied to aluminum.

Digital printed inkjet coating.

UV Barrier: Protective Clear Coat for UV protection against fading.

Style and Color to match MAIBEC Architectural Aluminum [STYLE and Color reference XXX-XX].

* + - * 1. [Solid Color Finish]

Liquid-coat finish: AAMA 2605 and Qualicoat certified.

Powder coat finish: AAMA 2604

Powder coat finish: AAMA 2605

Color to match MAIBEC Architectural Aluminum [COLOR reference XXXXX].

1. EXECUTION
	* + 1. EXAMINATION
				1. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of aluminum siding [and soffit] and related accessories.
				2. Proceed with installation only after unsatisfactory conditions have been corrected.
			2. PREPARATION
				1. Clean substrates of projections and substances detrimental to application.
				2. Inspect product before installation and verify that there is no shipping damage. Ensure proper handling and storage of all material.
				3. Do not install any damaged or questionable product; repair or replace as required for smooth, consistent, and high-quality finished appearance.
			3. INSTALLATION
				1. General: Comply with manufacturer's written installation instructions and shop drawings applicable to products and applications indicated unless more stringent requirements apply.

Center screws in oblong screw holes

Leave 1/16” (1.6mm) minimum clearance between the back of screw head and plank surface to allow thermal movement.

* + - * 1. Install aluminum siding, soffits and accessories as required, maintaining joints are true to line, tight fitting, hairline joints.

Locate joints over supports or use trim pieces as required to ensure structural stability.

Fasten to supports in an aligned, level, and plumb manner, using spacing recommended by manufacturer’s installation instructions.

* + - * 1. Install aluminum cladding and related accessories according to AAMA 1402

SPECIFIER NOTE:
Wind Load Testing is performed with fasteners spaced at 16 inches on center. If another fastener spacing needed for a specific project, contact a MAIBEC Representative to determine what is appropriate.

Install fasteners no more than 16 inches (406mm) o.c.

Leave 3/16” (4.7mm) clearance between trim and planks to allow thermal movement.

Where planks are butt joined together

Fasten directly through metal each plank butt joint with one (1) locking screw.

Locate locking screw close to butt joint to allow thermal movement at opposite ends. Balance of plank must be fastened in center of oblong holes.

If full length planks, cut 1/4 inch from each extremity to ensure square and neat junction.

Use appropriate colored touch up pen to cover exposed cut ends.

* + - * 1. Where aluminum siding contacts dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape or installing nonconductive spacers.
				2. Coordinate installation of flashings as specified in Section 07 60 00 “Flashing and Sheet Metal” and other outside components that relate to the cladding system.
				3. Install joint sealants as specified in Section 07 92 00 "Joint Sealants" to produce a weathertight installation.
			1. ADJUSTING AND CLEANING
				1. Review entire installed area for obvious flaws, defects, or improper installation. Remove, replace and/or repair any problem areas with new materials complying with specified requirements, paying close attention to the substrate as a potential cause of any problems.
				2. Finished installation must be properly secured, free of rattles, distortions, waviness, protrusions, and damaged or chipped components.
				3. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

**END OF SECTION**

DISCLAIMER:

This Specification has been written as an aid to the professionally qualified Specifier and Design Professional. The use of this Guide requires the sole professional judgment and expertise of the qualified Specifier and Design Professional to adapt the information to the specific needs for the Building Owner and the Project, to coordinate with their Construction Document Process, and to meet all the applicable building codes, regulations, and laws. MAIBEC INC. EXPRESSLY DISCLAIMS ANY WARRANTY, EXPRESSED OR IMPLIED, INCLUDING THE WARRANTY OF MERCHANTABILITY OR FITNESS FOR THE PARTICULAR PURPOSE OF THIS PRODUCT FOR THE PROJECT.