



**SECTION 07 46 23 – WOOD SIDING
MOSO® BAMBOO RAINSCREEN SIDING**

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GUIDE SPECIFICATIONS:

THIS GUIDE SPECIFICATION IS WRITTEN ACCORDING TO THE CONSTRUCTION SPECIFICATIONS INSTITUTE (CSI) FORMATS, INCLUDING MASTERFORMAT®, SECTIONFORMAT™, AND PAGEFORMAT™.

CAREFULLY REVIEW AND EDIT THIS SECTION TO MEET THE REQUIREMENTS OF THE PROJECT, LOCAL BUILDING CODE AND AUTHORITIES HAVING JURISDICTION. COORDINATE THIS SECTION WITH OTHER SPECIFICATION SECTIONS AND DRAWINGS.

DELETE ALL "SPECIFIER NOTES" WHEN EDITING THIS SECTION.

PART 1 - GENERAL

1.1 CONDITIONS AND REQUIREMENTS

- A. The General Conditions, Supplementary Conditions, and Division 01 – General Requirements apply.

1.2 SECTION INCLUDES

- A. MOSO® Bamboo Thermo® Rainscreen Siding.
- B. MOSO® Bamboo N-durance® Rainscreen Siding.

1.3 RELATED SECTIONS

- A. Section 06 10 00 – Rough Carpentry.
- B. Section 06 20 00 – Finish Carpentry.

1.4 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 1. ASTM C1371: Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers.
 2. ASTM C1549: Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer.
 3. ASTM D1037: Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials.

4. ASTM D2017: Standard Test Method of Accelerated Laboratory Test of Natural Decay Resistance of Woods.
5. ASTM D3345: Standard Test Method for Laboratory Evaluation of Wood and Other Cellulosic Materials for Resistance to Termites.
6. ASTM D6109: Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastic Lumber and Related Products.
7. ASTM D7031: Guide for Evaluating Mechanical and Physical Properties of Wood-Plastic Composite Products.
8. ASTM E84: Standard Test Method for Surface Burning Characteristics of Building Materials.
9. ASTM E330: Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Uniform Static Air Pressure Difference.
10. ASTM G155: Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials.
- B. California Reference Standards Code (CRSC):
 1. CSFM Title 24, Part 12-7A-1 with 5/8-inch Gypsum Sheathing.
- C. Canadian Underwriters Laboratories of Canada (CAN-ULC):
 1. CAN-ULC S102: Standard Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.
 2. CAN-ULC S107: Standard Method of Fire Tests of Roof Coverings.

1.5 SUBMITTALS

- A. Product Data:
 1. Submit manufacturer's printed product literature, specifications, and data sheets for each product used.
 2. Submit manufacturer's preparation and installation instructions and recommendations.
 3. Submit manufacturers storage and handling requirements and recommendations.
- B. Shop Drawings: Shop drawings available from the manufacturer upon request.
- C. Manufacturer's Samples: Submit three (3) siding boards in 6 inch or 7 inch size, illustrating the warm brown color, unfinished.
- D. Design Data: Submit available test reports.
- E. Operation and Maintenance Data: Submit for manufacturer's maintenance and care instructions available by request from design@moso-bamboo.ca

1.6 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in manufactured products specified in this section as provided by Moso North America, Inc. exclusively.
- B. Installer: Minimum 5 years experience in siding and exterior improvement work.
- C. Environmental Criteria:
 1. Environmental Product Declaration: An Environmental Product Declaration (EPD) has been issued for the product in accordance with European Standard EN 15804, which defines core rules for environmental product declarations of construction products. The EPD can be accessed at www.moso-bamboo.ca
 2. Leadership in Energy and Environmental Design (LEED) Contribution – Building Design and Construction (BD+C): Under the LEED version 4 framework, the product contributes to the following credit categories:
 - a. SITES v2 – Rating System for Sustainable Land Design and Development.
 - b. MATERIALS C5.3 – Design for adaptability and disassembly.
 - c. MATERIALS C5.7 – Support responsible extraction of raw materials.
 - d. MATERIALS C5.8 – Support transparency and safer chemistry.
 - e. MATERIALS C5.9 – Support sustainability in materials manufacturing.
 - f. CONSTRUCTION C7.5 – Divert construction and demolition materials from disposal.
 - g. INNOVATION C10.1 – Innovation or Exemplary performance.
 3. FSC® material available on request.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Material should be received palletized, in good condition and be checked to verify quantities and condition of material.
- B. MOSO® Bamboo siding materials should be kept out of direct sunlight and should not be exposed to inclement weather before installation.
 - 1. Evaporation Marks: Evaporation marks may appear on material during storage and post installation. For best appearance post installation, the contractor should remove evaporation marks from the surface with a vinegar and water solution and light scrub prior to installation.
- C. Do not store directly on concrete or near outside walls.

1.8 SITE CONDITIONS

- A. Do not install when visible defects are present.
- B. Do not install when a safe working environment cannot be achieved due to weather or other issues.
- C. Verify material measurements are the same as the sample.

1.9 WARRANTY

- A. Manufacturer’s Warranty: MOSO North America, Inc.(“MOSO”), warrants to the original Purchaser (“Purchaser”) that MOSO® Bamboo Outdoor products will not suffer structural damage due to rot, decay, or insect infestation for a period of 25 years from the date of the original purchase (the “Warranty Period”). Request the complete warranty information with your local supplier.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Specified Manufacturer: MOSO North America, Inc. Worcester, PA. Telephone: 855-343-8444. Website: www.moso-bamboo-outdoor.com. Email: info@moso-bamboo.com. MOSO Bamboo Canada Representation: www.moso-bamboo.ca e-mail: design@moso-bamboo.ca Phone: 604-998-8884
- B.

SPECIFIER NOTES: DELETE ONE OF THE FOLLOWING TWO PARAGRAPHS.

- C. Substitutions: Not Permitted.
- D. Requests for approved substitutions will be considered in accordance with provisions specified in Section 01 62 00 – Product Options.

2.2 MOSO® BAMBOO RAINSCREEN SIDING DESCRIPTION

SPECIFIER NOTES: DELETE PRODUCT DESCRIPTIONS NOT REQUIRED FOR THIS PROJECT.

- A. MOSO® Bamboo Thermo® Rainscreen Siding Description: MOSO® Bamboo Thermo® Rainscreen Siding is a solid, Thermo-Density® engineered bamboo lumber designed rainscreen siding. Manufactured from compressed bamboo strips, the product undergoes a specialized thermal modification and high-pressure treatment process, resulting in superior hardness, dimensional stability, and weather resistance comparable to tropical hardwoods. Facades with MOSO® Bamboo Thermo® Rainscreen Siding do not require periodic maintenance. MOSO® Bamboo Thermo® Rainscreen Siding is the truly ecological, durable, and thermally modified rainscreen siding.
- B. MOSO® Bamboo N-durance® Rainscreen Siding Description: MOSO® Bamboo N-durance® Rainscreen Siding is a solid, Outdoor-Density® board manufactured from compressed bamboo strips. It is engineered for exterior use. The product undergoes a steam-pressure treatment that imparts a warm caramel color, while special crushing and compression techniques enhance its hardness, dimensional stability, and durability. It achieves the highest durability class under applicable norms.



2.3 MOSO® BAMBOO RAINSCREEN SIDING PERFORMANCE CRITERIA

SPECIFIER NOTES: DELETE PRODUCTS NOT REQUIRED FOR THIS PROJECT.

- A. MOSO® Bamboo Thermo®:
 - a. Conforms to ASTM D7032 requirements for structural, durability, biological, and fire safety requirements.
- 2. Materials shall conform to the following environmental and durability performance standards:
 - a. Conforms to ASTM G155: After 2000 hours of ultraviolet exposure, the decking exhibited no significant change in flexural strength of 14,320 pound per square inch (98.7 megapascals) or stiffness which exhibited a change of 1.3 percent.
 - b. Conforms to ASTM D1037: Janka hardness.
 - c. Conforms to ASTM D2017: Strong resistance to fungal decay, exceeding untreated controls.
 - d. Conforms to ASTM D3345: No termite damage observed. Excellent resistance comparable to naturally durable or preservative treated wood.
 - e. Conforms to ASTM E84 Class A Flame Spread Performance.
 - f. Conforms to ASTM E330: Uplift resistance 91.1 pounds per square foot (4.36 kilopascals).
 - g. Conforms to ASTM C1371 Thermal Emittance: 0.81.
 - h. Conforms to ASTM C1549 Solar Reflectance: 0.32.
 - i. Conforms to ASTM E1980 Solar Reflectance Index: Low 27, Medium 30, High 33.
 - j. Conforms to CSFM Title 24 12-7A-1 with 5/8-inch Gypsum Sheathing.
 - k. Conforms to ASTM E108: Fire Test for Roof Coverings.
 - l. Conforms to CAN/ULC S102: Surface Burning Characteristics of Building Materials and Assemblies.

- B. MOSO® Bamboo N-durance® Performance Criteria:
 - a. Conforms to ASTM D7032 requirements for structural, durability, biological, and fire safety requirements.
 - b. Conforms to ASTM D6109: Flexural Strength: 10,870 pounds per square inch (74.9 megapascals) and Modulus of Elasticity 1,768,970 pounds per square inch (12,198 megapascals).
 - 1) Flexural Strength at Low Temperature (-20 degrees Fahrenheit / -29 degrees Celsius): No loss in strength or stiffness.
 - 2) Flexural Strength at High Temperature (125 degrees Fahrenheit / 52 degrees Celsius): 9.2 percent loss in strength, 0.3 percent loss in stiffness.
 - 3) Water submersion and freeze-thaw: No loss in strength or stiffness.
 - c. Conforms to ASTM D7031 requirements for load testing, exceeding the 81.9 percent minimum requirement.
- 2. Materials shall conform to the following environmental and durability performance standards:
 - a. Conforms to ASTM G155: After 2000 hours of ultraviolet exposure, the ~~decking~~ exhibited no significant change in flexural strength of 14,320 pound per square inch (98.7 megapascals) or stiffness which exhibited a change of 1.3 percent.
 - b. Conforms to ASTM D1037: Janka hardness.
 - c. Conforms to ASTM D2017: Strong resistance to fungal decay, exceeding untreated controls.
 - d. Conforms to ASTM D3345: No termite damage observed. Excellent resistance comparable to naturally durable or preservative treated wood.
 - e. Conforms to ASTM E84 Class A Flame Spread Performance: Flame Spread Index: 10. Smoke Develop Index: 140.
 - f. Conforms to ASTM E330: Uplift resistance 91.1 pounds per square foot (4.36 kilopascals).
 - g. Conforms to CSFM Title 24 12-7A-1 with 5/8-inch Gypsum Sheathing.

2.4 MOSO® BAMBOO RAINSCREEN SIDING MATERIALS

SPECIFIER NOTES: DELETE PRODUCTS NOT REQUIRED FOR THIS PROJECT.

- A. MOSO® Bamboo Thermo® Rainscreen Siding:

1. Physical Characteristics:
 - a. Density: 71.79 pounds per cubic foot (1,115 kilograms per cubic meter).
 - b. Product Weight: 5 pounds per square foot (24.4 kilograms per square meter).
 - c. Dimensional Stability after 24 hours in water at 68 degrees Fahrenheit (20 degrees Celsius):
 - 1) Change in length: +0.1 percent.
 - 2) Change in width: +0.9%.
 - d. Resistance to Indentation – Thermo® Janka Harness: 4997.
2. Color and Appearance: Fresh from production, the siding exhibits a medium brown color with a warm, natural wood-like aesthetic. The surface can be maintained with exterior hardwood oil to preserve this tone or allowed to weather naturally to a silvery grey patina.
3. Features:
 - a. Install ONLY with MOSO® A-symmetric Clip system for concealed fastening.
 - b. Suitable for all climates with minimal maintenance requirements.
4. Applications:
 - a. Siding.
 - b. Cladding.
5. MOSO® Bamboo Thermo® Rainscreen Siding Products:
 - a. Dutchlap Siding:
 - 1) 1x6x6 Dutchlap Siding: BTH-CL168G-DL-UF
 - a. Style: Thermo-Density®.
 - b. Finish: Unfinished.
 - c. Surface: Smooth.
 - d. Profile: Dutchlap.
 - e. End-matched: Yes.
 - f. Dimensions: 3/4 by 5-3/8 by 96 inches.
 - 2) 1x7x6 Dutchlap Siding: BTH-CL178G-DL-UF
 - a. Style: Thermo-Density®.
 - b. Finish: Unfinished.
 - c. Surface: Smooth.
 - d. Profile: Dutchlap.
 - e. End-matched: Yes.
 - f. Dimensions: 3/4 by 7 by 96 inches.
 - b. Fluted Siding:
 - 1) 1x6x6 Double Fluted Siding: BTH-CL168G-FL2-UF
 - a. Style: Thermo-Density®.
 - b. Finish: Unfinished.
 - c. Surface: Smooth.
 - d. Profile: Double Fluted.
 - e. End-matched: Yes.
 - f. Dimensions: 3/4 by 5-3/8 by 96 inches.
 - 2) 1x6x6 Triple Fluted Siding: BTH-CL168G-FL3-UF
 - a. Style: Thermo-Density®.
 - b. Finish: Unfinished.
 - c. Surface: Smooth.
 - d. Profile: Triple Fluted.
 - e. End-matched: Yes.
 - f. Dimensions: 3/4 by 5-3/8 by 96 inches.
 - c. Fasteners:
 - 1) Asymetric Fastener 20 millimeters: CLIP-SCREW-BX08
 - a. Color: Brown.
 - b. Fastener Dimensions: 11/6 by 57/64 by 27/64 inches.
 - c. Screw Dimensions: 4.5 by 30 millimeters.
 - d. Installation: Fasteners screwed directly into battens.
 - e. Items: 90 fasteners and 90 screws.
 - f. Material: Stainless steel A2 (AISI 304).
 - 2) Asymetric Fastener 20 millimeters: CLIP-SCREW BX08-316
 - a. Color: Brown.
 - b. Fastener Dimensions: 11/6 by 57/64 by 27/64 inches.
 - c. Installation: Fasteners screwed directly into battens.
 - d. Items: 90 fasteners and 90 screws.
 - e. Material: Stainless steel A2 (AISI 316).
 - d. Available Trim:

- 1) Facia Boards:
 - a. 1x12x8: BTH-LU1128-UF, S4S, E4E Lumber, Actual dimensions: 3/4 by 12 by 96 inches
 - b. 1x8x8: BTH-LU188-UF, S4S, E4E Lumber, Actual dimensions: 3/4 by 8 by 96 inches.
- 2) Trim:
 - a. 1x4x8: BTH-LU148-UF, S4S, E4E Lumber, Actual dimensions: 3/4 by 3 7/8 by 96 inches.
 - b. 1x6x8: BTH-LU168-UF, S4S, E4E Lumber, Actual dimensions: 3/4 by 5 3/8 by 96 inches.
- 3) Beams (non-structural):
 - a. 2x2x8: BTH-LU228-UF, S4S, E4E Lumber, Actual dimensions: 1.5 by 1.5 by 96 inches.
 - b. 2x4x8: BTH-LU248-UF, S4S, E4E Lumber, Actual dimensions: 1.5 by 3.5 by 96 inches.
 - c. 2x6x8: BTH-LU268-UF, S4S, E4E Lumber, Actual dimensions: 1.5 by 5.98 by 96 inches.
6. Additional Dimensions Available: MOSO® Bamboo Outdoor lumber is a highly versatile material similar to wood and can be produced in a variety of sizes and dimensions not mentioned here. Please contact MOSO® Bamboo Outdoor for more information.

B. MOSO® Bamboo N-durance® Rainscreen Siding

1. Physical Characteristics:
 - a. Density: 74.9 pounds per cubic foot (1,200 Kilograms per cubic meter).
 - b. Product Weight: 4.7 pounds per square foot (244 kilograms per square meter).
 - c. Dimensional Stability after 24 hours in water at 68 degrees Fahrenheit (20 degrees Celsius):
 - 1) Change in Length: +0.1 percent.
 - 2) Change in Width: 0.9 percent.
 - d. Resistance to Indentation - Janka Hardness: 5819.
2. Color and Appearance: MOSO® Bamboo N-durance® is pre-finished during production with Woca® Exterior Hardwood Oil, Color: Teak. The siding features a medium caramel color similar to popular exotic hardwoods. Annual oiling is recommended to maintain this color and to prevent mildew growth. For maintenance coats Messmer's Bamboo Oil can also be used. It is common that a newly installed N-durance® siding may require a refresh coat to complete installation.
3. Features:
 - a. Solid Outdoor-Density® bamboo construction.
 - b. Steam-pressure treated for warm caramel tone.
 - c. High hardness and dimensional stability.
 - d. Highest durability class in applicable standards.
 - e. Requires annual oiling for color retention and mildew prevention.
4. Applications:
 - a. Siding.
 - b. Cladding.
5. MOSO® Bamboo N-durance® Siding Products:
 - a. Dutchlap Siding:
 - 1) 1x6x8 Dutchlap Siding: BND-CL168G-DL-UF
 - a. Style: Outdoor-Density®.
 - b. Finish: Woca Exterior Oil Color: Teak.
 - c. Surface: Smooth.
 - d. Profile: Dutchlap.
 - e. End-matched: Yes.
 - f. Dimensions: 3/4 by 5-3/8 by 96 inches.
6. Additional Dimensions Available: MOSO® Bamboo Outdoor lumber is a highly versatile material similar to wood and can be produced in a variety of sizes and dimensions not mentioned here. Please contact MOSO® Bamboo Outdoor for more information.

2.5 ACCESSORIES

 SPECIFIER NOTES: DELETE ACCESSORIES NOT REQUIRED FOR THIS PROJECT.

A. MOSO® Bamboo Thermo® and N-durance® Siding Accessories:

 SPECIFIER NOTES: IF SUBSTITUTING FASTNERS, NOTE METRIC THICKNESS BEFORE SELECTION OF
 ALTERNATE FASTENER.

1. Fasteners: Moso Bamboo fastener clips model number CLIP-SCREWBX-08 and CLIP-BX08.
 - a. Available in 316 grade stainless for saltwater applications.
2. Plug Kit: Starborn Pro Plug kit for Bamboo.
3. Cleaner: Messmer's Wood Deck Cleaner (Oxalic Acid Powder).
4. Finish: Penetrating oil finishes.
 - a. Woca Exterior Oil Color: Teak <https://wocawoodcare.com/products/woca-exterior-wood-oil?variant=51712971211118>
 - b. Alternative Penetrating Exterior Rated Hardwood Oil.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine Project conditions and completed Work and verify that all sub structures have a level surface. Check that structure is properly built to the plans and all changes have been approved.
- B. Verify the substructure is clean, dry, and free of loose material, grease, or other contaminates which may interfere with proper joining to the substrate.
- C. Immediately correct all deficiencies and conditions which would cause improper execution of Work specified in this Section and subsequent Work.
- D. Proceeding with Work specified in this Section shall be interpreted to mean that all conditions were determined to be acceptable prior to start of Work.

3.2 PREPARATION

- A. Verify the material provided is correct per the labelling and in the requested quantities.

3.3 INSTALLATION

- A. MOSO® Bamboo Rainscreen siding should be treated as any other rainscreen installation. Siding is installed on battens/furring strips that will accept a screw. A minimum of 1/2-inch airgap must be maintained behind the boards. Structure should be flashed and made weathertight prior to installation of siding per standard methods.
- B. Install all work in accordance with the manufacturer's installation instructions available requesting at design@moso-bamboo.ca

3.4 FIELD QUALITY CONTROL

- A. Inspect all material as it is being installed and check for visible defects.
- B. Keep material onsite out of rain and sun, under cover and free of airborne dust.
- C. Before installing check for dark blemishes which are a result of moisture evaporation from the boards surface. Clean with a mixture of 1part vinegar and 3 parts water.

3.5 MANUFACTURER'S FIELD SERVICES

- A. Field personnel are available upon request for inspection of the work.

3.6 CLEANING

- A. Cleaning: Follow the manufacturer's installation instruction and clean prior to Owner's acceptance.
 - 1. Annual cleaning of your MOSO® Bamboo Thermo® Siding is recommended. Sweep with a broom or blow off with a leaf blower any loose debris first. Use Messmer's Wood & Deck cleaner for best results. If you desire to keep the rich dark brown color, in addition to yearly cleaning we recommend a recoating with Messmer's Bamboo Finish oil. Finishing is NOT required. Annual care and cleaning should be done with a stiff bristle brush.

3.7 PROTECTION

- A. Siding should be protected until delivery to owner.
- B. Maintain covering throughout remainder of the construction period.
- C. Do not allow paint or other finishes to contact the siding during the final stages of the project.

END OF SECTION