

### LAMINATOR'S OMEGA-LITE AND THERMOLITE PRODUCT SPECIFICATION

This MANU-SPEC® utilizes the Construction Specifications Institute (CSI) Manual of Practice, including MasterFormat™, SectionFormat™ and PageFormat™. A MANU-SPEC is a manufacturer specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text indicated by brackets ( ): delete optional text in final copy of specification.

This MANU-SPEC specifies metal roof and wall panels, including composite architectural panels, marketed under the trade names "Thermolite" and "Omega-Lite", as manufactured by Laminators Inc. Revise MANU-SPEC section number and title below to suit project requirements, specification practices and section content. Refer to CSI MasterFormat™ for other section numbers and titles.

#### SECTION 07410

#### METAL ROOF & WALL PANELS (ALUMINUM COMPOSITE PANELS)

#### PART 1 GENERAL

##### 1.01 SUMMARY

A. Section Includes: Metal roof and wall panels, including aluminum composite panels.

Specifier Note: Revise paragraph below to suit project requirements. Add section numbers and titles per CSI MasterFormat™ and specifier's practice.

B. Related Sections: Section(s) related to this section include:

1. (Specify Work Title): (Specify Division (#) (Title) (Section)).

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Division 1 References Section may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section.

##### 1.02 REFERENCES

A. General: Standard listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title, or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.

B. American Society for Testing and Materials (ASTM):

1. ASTM B209-96 - Aluminum and Aluminum-Alloy Sheet and Plate.

2. ASTM C481-94a - Laboratory Aging of Sandwich Constructions.

3. ASTM E84-96a - Surface Burning Characteristics of Building Materials.

4. ASTM E380 - Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

C. American Architectural Manufacturers Association (AAMA):

1. AAMA 605.2-92 - Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels.

2. AAMA TIR-A11-96 - Maximum Allowable Deflection of Framing Systems for Building Cladding Components at Design Wind Loads.

Specifier Note: Article below should be restricted to statements describing design or performance requirements and functional (not dimensional) tolerances of a complete system. Limit descriptions to composite and operational properties to extent necessary to link multiple components of a system, and to interface with other systems.

### 1.03 SYSTEM DESCRIPTION

A. Performance Requirements: Provide aluminum composite panels which have been manufactured, fabricated and installed to withstand loads from (Specify code/standard reference.) and to maintain (Specify performance criteria.) performance criteria stated by manufacturer without defects, damage or failure. Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor either before, during, or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 1 Submittal Procedures Section.

### 1.04 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

B. Product Data: Submit product data, including manufacturer's SPEC-DATA® product sheet, for specified products.

C. Shop Drawing: Submit shop drawings showing layout, profiles and product components, including anchorage, accessories, finish colors, patterns and textures.

D. Samples: Submit selection and verification samples for finishes, colors and textures.

E. Quality Assurance Submittals: Submit the following:

1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties

2. Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria, and physical requirements.

3. Manufacturer's Instructions: Manufacturer's installation instructions.

Specifier Note: Coordinate paragraph below with Part 3 Field Quality Requirements Article herein. Retain or delete as applicable.

4. Manufacturer's Field Reports: Manufacturer's field reports specified herein.

F. Closeout Submittals: Submit the following:

1. Operation and Maintenance Data: Operation and maintenance data for installed products in accordance with Division 1 Closeout Submittals (Maintenance Data and Operation Data) Section. Include methods for maintaining installed products, precautions against cleaning materials and methods detrimental to finishes and performance.

2. Warranty: Warranty documents specified herein.

Specifier Note: Article below should include prerequisites, standards, limitations and criteria which establish an overall level of quality for products and workmanship for this section. Coordinate below article with Division 1 Quality Assurance Section.

### 1.05 QUALITY ASSURANCE

#### A. Qualifications:

1. Installer Qualifications: Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.

Specifier Note: Retain paragraph below to suit project requirements; otherwise delete paragraph below.

a. certificate: When requested, submit certificate indicating qualification.

2. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction, approving acceptable installer and approving application method.

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section.

General statements to comply with a particular code are typically addressed in "Conditions of the Contract and Division 1 Regulatory Requirements Section. Repetitive statements should be avoided.

#### B. Regulatory Requirements: (Specify applicable requirements of regulatory agencies.)

Specifier Note: Retain paragraph below for erected assemblies (either onsite or offsite) required for review of construction, coordination of work of several sections, testing or observation of operation. Mock-ups, when accepted or approved, establish standards by which work will be judged. Coordinate below with Division 1 Quality Control (Mock-Up Requirements) Section.

C. Mock-Ups: Install at project site a job mock-up using acceptable products and manufacturer approved installation methods. Obtain Owner's and Architect's acceptance of finish color, texture and pattern, and workmanship standard. Comply with Division 1 Quality Control (Mock-Up Requirements) Section.

Specifier Note: Edit paragraph below to specifying mock-up size.

1. Mock-Ups: (Specify mock-up size.)

2. Maintenance: Maintain mock-up during construction for workmanship comparison: remove and legally dispose of mock-up when no longer required.

3. Incorporation: Mock-up may be incorporated into final construction upon Owner's approval.

Specifier Note: Coordinate paragraph below with Division 1 Project Management And Coordination (Project Meetings) Section.

D. Preinstallation Meeting: Conduct preinstallation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions, and manufacturer's warranty requirements. Comply with Division 1 Project Management and Coordination (Project Meetings) Section.

### 1.06 DELIVERY, STORAGE & HANDLING

A. General: Comply with Division 1 Product Requirements Section.s

B. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.

C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

D. Storage and Protection: Store materials protected from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer.

### 1.07 PROJECT CONDITIONS

A. Field Measurements: Verify actual measurements/openings by field measurement before fabrication; show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

Specifier Note: Coordinate article below with Conditions of the Contract and with Division 1 Closeout Submittals (Warranty) Section.

### 1.08 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under contract Documents.

Specifier Note: Coordinate paragraph below with manufacturer's warranty requirements. Laminator Thermolite NQ20 finish is warranted for ten years. The Kynar 500 finish is warranted for 20 years Certain aspects of Laminators' panels are covered by a limited warranty, which requires compliance with the manufacturer's installation instructions. Contact Laminators Inc. for details.

1. Warranty Period: (Specify term.) years commencing on Date of Substantial Completion.

## PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards, and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

### 2.01 METAL ROOF AND WALL PANELS

A. Manufacturer: Laminators Inc., as supplied by McGrory Glass, Inc 800-220-3749

Specific Note: Paragraph below is an addition to CSI SectionFormat and a supplement to MANU-SPEC. Retain or delete paragraph below per project requirements and specifier's practice.

1. Contact: Gary McGrory, McGrory Glass, Inc 100 Commerce Drive Aston, PA 19014  
(800) 220-3749 (ph) , (484) 229-9153 (fx) [gary@mcgrory-glass.com](mailto:gary@mcgrory-glass.com) (e-mail)

Specifier Note: Below Thermolite panels are suitable for exterior wall cladding systems for most building types. Typical panel applications include storefronts, opaque glazing, curtain walls, infill panels, balcony railings, fascias, spandrels, soffits, canopies and sunrooms.

B. Proprietary Products(s) System(s): Omega-Lite Composite Architectural Veneer Panels and Thermolite Aluminum Composite Architectural Insulated Panels.

Specifier Note: Omega-Lite and Thermolite panels consist of a prefinished ASTM B209 aluminum sheet over a corrugated polyallomer (CPA) core. Panel facing options include: Smooth face .032" (.8 mm); Stucco embossed .032" (.8 mm); Stucco embossed .011" (.28 mm). Backing can be mill-finished painted aluminum sheet, 0.01" (0.25 mm) thick aluminum backer or the same material as the face sheet. Thermolite overall panel thickness is 1" (25 mm). CPA is impervious to water. Panels remain dimensionally stable and will not delaminate, buckle, exhibit pitting or other deterioration. The CPA core is formed in a triangular truss design for optimal strength at a light weight. Thermolite panels feature an insulating polystyrene or polyisocyanurate core and have an overall panel thickness of 5/8" - 3 1/2" (16 - 89 mm). 1" thick (25 mm) is typical. Thermolite fits standard insulating glass curtain wall and storefront extrusions.

1. Panel: Prefinished ASTM B209 aluminum sheet over corrugated polyallomer (CPA) core.

2. Panel Facing: (Specify Smooth face .032" (.8 mm); Stucco embossed .032" (.8 MM); Stucco embossed .011"(.28 mm).

Specifier Note: Omega-Lite and Thermolite panels are available in the following finishes: Stucco embossed Omega NQ20 - 10 Year warranty paint system in 12 colors @ Smooth and stucco embossed - Kynar 500 PVDF fluoropolymer system meeting AAMA 605.2 in 25 colors, matching ATAS Roofing Systems standard colors, 20 year warranty.

3. Finishes and Colors: (Specify finish and color.)

4. Width: (Specify 48" (1219 mm) typical; or cut-to-order-; 60" (1524 mm) special.)

5. Length: (Specify 72" (1028.8 mm), 96" (2438.4 mm), 120" (3048.0mm), 144" (3657.6 mm); or cut-to-size; (length to 12 ft (3.65 m) ).

6. Thickness: For Omega-Lite, nominal 1/4" (6 mm), and Thermolite, nominal 1" (25 mm) typical (fits 1" glass & glazing pockets); Actual 15/16", +/-1/16".

7. Tolerances: Length and Width: +/- 1/16" (1.6mm); Squareness (Diagonals) equal within 1.8" (3.2mm). Construction: 1", OFP 20, .032/.015.

Specifier Note: Edit below to suit project requirements. Specify weight, R-value, stability, stiffness and wind load. Data listed below for weight,R-value, stability, stiffness and wind load are typical values for Thermolite. Contact manufacturer for technical data sheet for specific product and application information to suit project requirements.

8. Weight: 1.40 lb/sq ft.

9. R-Value: 4.25 hr, ft<sup>2</sup>, F0 /BTU

- a. Thermolite 1" (25 mm) polystyrene core: R-4.25 Hr, ft<sup>2</sup>, F0 /BTU (RSI .75/m<sup>2</sup> /K/W)

- b. Thermolite 1" (25 mm) isocyanurate core: R-5.0 Hr, ft<sup>2</sup>, F0 /BTU (RSI .88/m<sup>2</sup> /K/W)
- 10. Stability: 2.42 x 10<sup>-5</sup> in/in 0F, 4.4 x 10<sup>-4</sup> in/ft: 50 to 90% RH.
- 11. Stiffness: 1.54 x 10<sup>6</sup> PSI/ ft - width (EI).12. Load: 71 lbs/ft<sup>2</sup> 48" span AAMA L/175 Limit.
- 12. Wind Load: 167 MPH, 48" O.C. based on ASTM E330 static load limited by AAMA L/175 deflection.
- 13. Fire Test: ASTM E84: Class A.
- 14. Bond Test: ASTM C481-A Cyclic Aging: Pass.
- 15. Material Standard: Provide composite architectural panels in compliance with the following applicable standards:
  - a. AAMA 605.2 - Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels.
  - b. AAMA TIR-A11 - Maximum Allowable Deflection of Framing System for Building Cladding Components at Design Wind Load.
  - c. ASTM B209 - Aluminum and Aluminum-Alloy Sheet and Plate.
  - d. ASTM C481 - Laboratory Aging of Sandwich Constructions.
  - e. ASTM E84 - Surface Burning Characteristics of Building Materials.
  - f. ASTM E3380 - Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference.

Specifier Note: Edit article below to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Division 1 Project Requirements (Product Substitutions Procedures) Section.

### 2.02 PRODUCT SUBSTITUTIONS

- A. Substitutions: No substitutions permitted.

### 2.03 ACCESSORIES

- A. Manufacturer's Accessories: Provide manufacturer's accessories for product installation.

### 2.04 RELATED MATERIALS

- A. Related Materials: Refer to other sections for related materials.

### 2.05 SOURCE QUALITY

- A. Source Quality: Obtain aluminum composite panel materials from a single manufacturer.

## PART 3 EXECUTION

Specifier Note: Article below is an addition to the CSI SectionFormat and a supplement to MANU-SPEC. Revise article below to suit project requirements and specifier's practice.

### 3.01 MANUFACTURER'S INSTRUCTIONS

A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions, and product video instructions for installation.

### 3.02 EXAMINATION

A. Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.

### 3.03 PREPARATION

A. Surface Preparation: (Specify applicable product preparation requirements.)

Special Note: Coordinate article below with manufacturer's recommended installation details and requirements.

### 3.04 INSTALLATION

Specifier Note: Laminators Inc. offers installation systems for differing application conditions. System I for Omega-Lite panel uses tight fitting moldings. Applications include mansard roofs, fascias, soffits, railing inserts, walls, ceilings, doors and kick plates. Panels are installed at jobsite by carpenters or glaziers with standard carpentry tools and distributor stocked parts. System II for Omega-Lite or Thermolite infill panels is recommended for storefronts, skylight and curtain walls with extrusions by others. Panels are glazed into store front or curtain wall systems and require glazing skills. System IV produces a high tech appearance in curtain walls, fascias and soffits. Moldings can be supplied by Laminators Inc. or by others. Fabrication can be done in the shop or field. System VI mimics System IV with much lower installed cost.

A. Panel Installation: (Specify installation system as recommended by manufacturer to suit project requirements.)

Specifier Note: Below "Clip & Caulk" (System VI) is ideal for on-site installer installation, because it's the easiest to install. Requires the least amount of shop fabrication, shop drawings, and pre-planning, but it is a cut-and-fit approach that requires a few peripheral accessories. Plus, silicone caulk will bond to Laminators CPA panel cores. Since silicone won't bond to the polyethylene or plastic cores of competitive panels. The "Clip & Caulk" System VI actually offers quality comparable to rout and return systems at considerably less expense. The system works with both Omega-Lite and Thermolite.

#### 1. "Clip and Caulk" Installation System (VI).

Specifier Note: Below extrusion system (System I) utilizes extruded aluminum moldings to cover panel joints and provide a more "finished" or contemporary panel" appearance. Aesthetically pleasing, the extrusions use a "cut-and-fit" approach for easy contractor installation and minimal waste

#### 2. Tight-Joint Extrusion Installation System (I).

Specifier Note: Below System IV provides a solid, rigid and smooth finish. Traditional rout & return joints with panned edges can also be achieved using standard carpentry tools. This process can even be performed in the field to minimize installation costs. Canopy applications benefit from the panels

inherent strength and resistance to "oil-canning". Detailed drawings walk installer through the process step-by-step. Shop drawings are submitted before fabrication.

### 3. "Rout and Return" Installation System (IV).

Specifier note: Consult with Laminators Inc. for below installation system.

### 4. "Infill Panels" Installation System (II).

Specifier Note: OmegaLite flex panels can be field rolled to radii of 18" (457 mm) and above without costly, offsite fabrication and fittings. Contact manufacturer for more information.

### 5. Omega-Lite: Flex - Radius-form, Onsite.

Specifier Note: Edit paragraph below. Contact between dissimilar metals causes electrolysis. Provide adequate separation between faces and backs of aluminum panels and other metals. Panels must be properly sealed in place to prevent water entry into building. Follow Laminators' Installation and Assembly Instructions.

B. Interface with Other Work: (Specify applicable requirements for interface with other Work.)

C. Site Tolerances: (Specify applicable site tolerances for specified product(s) installation.)

D. Related Products Installation: Refer to other sections for related product(s) installation.

## 3.05 FIELD QUALITY REQUIREMENTS

Specifier Note: Edit paragraph below. Establish number and duration of periodic site visits with Owner and manufacturer, and specify below. Consult with manufacturer for services required. Coordinate paragraph below with Division 1 Quality Assurance section and Part 1 Quality Assurance Submittals herein. Delete if manufacturer's field service not required.

A. Manufacturer's Field Services: Upon Owner's request, provide manufacturer's field service consisting of product use recommendations and periodic site visit for inspection of product installation in accordance with manufacturer's instructions.

1. Site Visits: (Specify number and duration of periodic site visits.)

## 3.06 cleaning

a. Cleaning: Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to owner's acceptance. Remove construction debris from project site and legally dispose of debris.

## 3.07 protection

A. Protection: Protect installed product and finish surfaces from damage during construction..