

This Specification utilizes the Construction Specifications Institute (CSI) *Manual of Practice*, including *MasterFormat™*, *SectionFormat™* and *PageFormat™*. This is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets []; delete optional text in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

This section specifies various types of acoustical wall panels. These products are manufactured by Optima. Revise the 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 1 ACOUSTICAL WALL TREATMENT

PART 1 GENERAL

1.01 SUMMARY

Specifier Note: Revise paragraphs below to suit project requirements.

- A. Section Includes: Custom fabricated acoustical wall panels.

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. ASTM International:

1. ASTM C423 Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
2. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
3. ASTM E795 Standard Practices for Mounting Test Specimens During Sound Absorption Tests.

Specifier Note: Article below should be restricted to statements describing design or performance requirements and functional (not dimensional) tolerances of a complete system. Omit 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:

1. Surface Burning Characteristics (ASTM E84):
 - a. Flame spread: 25, maximum.
 - b. Smoke Developed: 450, maximum.
 - c. Fire ratings for all fabric covered panels are based on testing of the panel wrapped with the standard in stock fabric.
 - d. This rating applies to all acoustical wall treatment unless specifically excluded in the product specification section 2.02.
 - e.

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor 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 sheet, for specified products.
- C. Shop Drawings: Submit shop drawings showing layout, edge profiles and panel components, including anchorage, accessories, finish colors and textures.
- D. Samples: Submit selection and verification samples of finishes, colors and textures.
- E. Test Reports: Certified test reports showing compliance with specified performance requirements.
 1. Standard Systems: Submit certified copies of previous test reports substantiating performance of system in lieu of retesting.

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

1.05 QUALITY ASSURANCE

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.

- A. Regulatory Requirements and Approvals: [Specify applicable requirements of regulatory agencies].
 1. [Code agency name].
 - a. [Report or approval number].

Specifier Note: Article below should include special and unique requirements. Coordinate article below with Division 1 Product Requirements Section.

1.06 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirements Section.
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

1.07 PROJECT CONDITIONS

- A. Environmental Requirements: Do not install panels until wet work, such as concrete and plastering, is complete; the building is enclosed; and the temperature and relative humidity are stabilized at 60 - 80 degrees F (16 - 27 degrees C) and 40% to 50%, respectively.

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 ACOUSTICAL INTERIOR PRODUCTS

Specifier Note: Paragraph below is an addition to CSI *SectionFormat*. Retain or delete paragraph below per project requirements and specifier's practice.

- A. Manufacturer: Optima.

1. Contact: PO Box 115858, Dubai, UAE E-mail: sales@optimain.ae; Web site: www.optimain.ae

Specifier Note: Edit Paragraph 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.

- B. Substitutions: No substitutions permitted.

Specifier Note: Paragraphs below list proprietary acoustical wall panels offered by Optima. Select wall panel type(s) appropriate to project. Panels are custom fabricated. Consult manufacturer regarding product options. Select product characteristics required; delete characteristics not required. Refer to manufacturer's technical product information.

2.02 MANUFACTURED UNITS

A. Acoustic Wall Panels:

1. Thickness: 20 mm , 40 mm
2. Size: As indicated on the drawings up to a maximum 48 inch (1219 mm) x 120 inch (3048 mm) panel.
3. Core: [1/2 inch (12.7 mm)] [1 inch (25.4 mm)] [1 1/2 inch (38 mm)] [2 inch (51 mm)] [3 inch (76 mm)] [4 inch (102 mm)] thick fiberglass, 6 - 7 pcf (96 - 112 kg/m³) density.
4. Edge Detail: [Square] [Round] [Mitered] [Beveled] [Pencil] hardened with non-resin, Class A hardening solution.
5. Facing: [100% polyester fabric, Camira, Cara Range] [Factory approved customer selected fabric].
 - a. Color: [As selected from panel manufacturer's stocked range of colors] [As selected from fabric manufacturer's full range of colors].
6. Sound Absorption (ASTM C423): Noise Reduction Coefficient as follows:
 - a. 20 mm Panel: 0.80, minimum.
 - b. 40 mm Panel: 0.95, minimum.
 - c. > (40 mm) Panel: 1.00, minimum. By means of Mounting Brackets
7. Mounting Accessories: [Z-clips] [Adhesive] [Velcro].

B. OMP Panels: (Metal Panels)

1. Thickness: 2 inches (51 mm). 4 inches (100 mm).

Specifier Note: OMP panels are available in flat style. Standard sizes for flat (OMP) panels up to 42 inches wide x 120 inches high (1067 x 3048 mm) or 114 inches wide x 48 inches high (2896 x 1219 mm). Available in larger sizes up to 54 inches wide x 144 inches high (1372 x

3658mm) or 138 inches wide x 60 inches high (3505 x 1524 mm) as special order. Also available normally for built up and assembly at site

2. Size: As indicated on the drawings.
3. Construction: [22 gage galvanized steel] [0.032 inch (0.81 mm) light duty aluminum] [0.040 inch (1.02 mm) medium duty aluminum] face, perforated with 3/32 inch (2.4 mm) holes on 3/16 inch (4.8 mm) staggered centers, providing 23% open area. [20 gage steel] [0.040 aluminum] channel/stiffener framing. 2 inches (51 mm) thick, [glass fiber / Rockwool batt insulation with medium density skin] [fibrous insulation sound absorber encased in BGT from the facing side].
4. Finish: Manufacturer's standard powder coated paint finish.
 - a. Color: [As selected from panel manufacturer's range of standard colors] [Match Architect's sample].
5. Sound Absorption (ASTM E795, A mounting): Noise Reduction Coefficient of 0.90.
6. Mounting Accessories: [Flush mount Z-clips top with angle clips bottom] [Top Z-clip and bottom J-channel].

C. AL FACED Absorber Panels:

1. Thickness: [1 inch (25.4 mm)] [2 inches (51 mm)].

Specifier Note: The maximum size available for this panel is 48 inches wide x 96 inches high (1219 x 2438 mm).

2. Size: As indicated on the drawings.
3. Construction: 3 pcf (48 kg/m³) density fiberglass core encapsulated and sealed with fiberglass reinforced reflective film.
 - a. Color: [Aluminized silver].
 - b. Specifier Note: Class A fire rating for aluminized silver facing only.
4. Edge Detail: Square with soft corner.
5. Sound Absorption (ASTM C423): Noise Reduction Coefficient as follows:
 - a. 1 inch (25.4 mm) Panel: 0.75, minimum.
 - b. 2 inch (51 mm) Panel: 0.95, minimum.
6. Mounting Accessories: [Impaling pins] [Edge clips] [Top and bottom J-clips].
- 7.

D. PVC Baffles

1. Thickness: shall be 1 ½ inches
2. Size: As indicated on drawings up to a maximum 48 inch (1219 mm) x 96 inch (2438 mm) baffle.
3. Core: 1 ½ inch thick, 3 pcf density fiberglass
4. Facing: Baffles shall be heat sealed in a fire retardant 3 mil minimum and 4 mil maximum vinyl film / PVC Layer
5. a. Color: As selected from panel manufacturer's standard vinyl's.
6. Sound Absorption (ASTM C423): Sabins per square foot of baffle minimum-
7. 125Hz 250Hz 500Hz 1000Hz 2000Hz 4000Hz
8. .25 .74 1.49 1.80 1.53 .98
9. Testing of baffles in a typical vertically suspended layout
10. Mounting: Suspension wire, cable, or other approved hanging mechanism attached to plated brass eyelets which are part of the baffle.

E. Ceiling Baffles – Same Core of our standard Acoustic Wall Panels

1. Thickness shall be (20 mm) [40 mm)] and More
2. Size: As indicated on the drawings up to a maximum 48 inch (1219 mm) x 120 inch (3048 mm) baffle.
3. Core: 6-7 pcf density fiberglass for the required thickness.
4. Edge Detail: [Square] [Round] [Mitered] [Beveled] [Pencil]
5. Facing: 100% polyester fabric, Camira, Cara Range [Factory approved customer selected fabric]
 - a. Color: [As selected from panel manufacturer's stocked range of colors] [As selected from fabric manufacturer's full range of colors].
6. Sound Absorption (ASTM C423): Noise Reduction Coefficient as follows:
 - a. (20 mm) Panel: 0.80, minimum
 - b. (40 mm) Panel: 1.00, minimum
 - c. More Than (40 mm) Panel: 1.10, minimum, By bonding more Fiberglass Layers.
 - d. Baffle panels tested with an A mounting (flush) to hard surface. Suspension from ceiling will increase sound absorption.
7. Mounting: Suspension wire, cable, or chain attached to the Zinc plated steel eye screws at the top of each baffle.

F. Ceiling Tiles

Polo acoustic ceiling tiles comprises a medium density glass wool panel covered with a sandy surface, painted glass wool tissue for decorative ceiling effect. Its backside is open or covered with glass fleece, it is an economical ceiling for application where basic requirements are needed ; acoustic, fire and moisture resistance and installation / removal. It is installed on exposed grid system to create esthetic effect

Density / Thickness and size	50 kg/m ³ - 15 mm (600 mm x 600 mm)/(600 mm x1200 mm)
Fire Safety	Class B s1 d0 According to EN 13501-1:2007
NRC	0.80—0.85 According to ISO 354 room testing method
Moisture Resistance	Up to 95% at 30 °C according to ISO-4611
Light Efficiency	Up to 85% Light Reflection
Edge / System Weight	Square—Tegular / total weight, approximately 2.5 kg/Sq.m. including the suspension system

Perform installation of the acoustic ceiling tiles as late as possible during the building stage. They are installed on 15 mm or 24 mm exposed grid system. To minimize contamination, use clean cotton gloves during installation or any handling of the tiles.

G. Acoustic Wooden Panel

Optima Sound absorptive panels are available in different types and perforation. It is designed to significantly improve the acoustic of a room. It can be used in different combinational formations and match the architectural and acoustical requirements of each room.

Wooden panels are fabricated from MDF core panels. The panel surface can be timber veneer, melamine coated or painted in different colors. The standard panel sizes are 600 mm x 600 mm or 1200 mm x 600 mm but can be customized based on requirements of each application.

Optima offer different kinds of perforation, grooving or any other panel constructions with verity of dimensions to suit the application as well as the required absorption.

2.03

2.04 FABRICATION

Specifier Note: Retain or delete paragraphs below per project requirements.

Specifier Note: Heat shrink process described below creates a more impact resistant panel. Dents in the fiberglass core due to impact are invisible behind the stretched fabric face.

- A. General: Treat fabric wrapped panels using heat shrink process to develop fully taut facing.
- B. Acoustic Wall Panels: Wrap panel edges and return facing fabric 1 - 2 inches (25.4 - 51 mm) on back of panel. Secure fabric with adhesive applied to edges and back of panel only.
 - 1.

PART 3 EXECUTION

Specifier Note: Paragraph below is an addition to CSI *SectionFormat*. Retain or delete paragraph below per 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 carton instructions for installation.

3.02 EXAMINATION

- A. Site Verification of Conditions: Verify that substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.
 - 1. Verify that stud spacing is 16 inches (406 mm) oc, maximum, for panels installed over open studs.
 - 2. Do not install panels until unsatisfactory conditions are corrected.

3.03 CLEANING

- A. Follow manufacturer's instructions for cleaning panels soiled during installation. Replace panels that cannot be cleaned to as new condition.
- B. Keep site free from accumulation of waste and debris.

END OF SECTION