

ALPRO® CORRUGATE ACOUSTICAL CEILING PANEL SYSTEMS FOR NATATORIUMS

Section 09 54 00

PART 1 – GENERAL

1.01 SECTION INCLUDES:

- A. This section includes ALPRO® Corrugate Acoustical Ceiling Panels for Natatoriums as shown on the Architectural Drawings.
- B. Related sections include the following: (List applicable sections)

1.02 RELATED DOCUMENTS/SECTIONS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions.
- B. Division 1 Specification sections apply to work of this Section.
- C. Finish Schedule or Finish Legend applies to work of this Section.

1.03 REFERENCES:

- A. GENERAL
 - 1. Comply with applicable requirements of the following, except where more stringent requirements are indicated by building codes.
- B. ASTM (American Society for Testing and Materials)
 - 1. ASTM C635, Standard Specifications for Metal Suspension Systems for Acoustical Tile and Lay-In Panel Ceilings.
 - 2. ASTM C636, Recommended Practice for Installation of Metal Suspension System for Acoustical Tile and Lay-In Panels.
- C. CISCA Ceiling Systems Installation Handbook.

1.04 DESIGN/PERFORMANCE REQUIREMENTS:

- A. All components of the ALPRO® Corrugate Acoustical Ceiling Panels for Natatoriums shall be provided by one (1) Manufacturer to ensure single source responsibility and quality control.

1.05 SUBMITTALS:

- A. Submission must be made within ten (10) working days of the General Contract Award to avoid project delay.
- B. Product Data: Submit Manufacturer's technical data and brochures for specified System.
- C. Shop Drawings: Submit Shop Drawings for fabrication and installation of ALPRO® Corrugate Acoustical Ceiling Panels for Natatoriums including the following:
 - 1. Location of ALPRO® Corrugate Acoustical Ceiling Panels for Natatoriums
 - a) **Note that ALPRO® Ceiling Panel Systems for Natatoriums must be installed a minimum of 15' above the level of the water in a pool environment.**

2. Aluminum Panel thickness
 3. Panel corrugation pattern
 4. Perforated or non-perforated
 5. Dimensions
 6. Sizes
 7. Finishes
- D. Samples:
1. Submit three (3) samples consisting of 12" long Suspension Tee and 12" x 12" corrugated Panel.
- E. Sustainability:
1. Materials and Resources
 - a. Building Life-Cycle Impact Reduction
 - i. LCAs for aluminum and steel are available.
 - a) Aluminum - http://www.gordon-inc.com/literature/pdf/cisca_background_report_aluminum_2020-04-24.pdf
 - b) Steel - http://www.gordon-inc.com/literature/pdf/cisca_background_report_steel_2020-04-24.pdf
 - b. Building Product Disclosure and Optimization - Environmental Product Declarations
 - i. Industry-average EPDs for aluminum and steel are available.
 - a) Aluminum - http://www.gordon-inc.com/literature/pdf/101.1_cisca_industry_wide_epd_aluminum_specialty_products.pdf
 - b) Steel - http://www.gordon-inc.com/literature/pdf/102.1_cisca_industry_wide_epd_steel_specialty_products.pdf
 - c. Building Product Disclosure and Optimization - Sourcing of Raw Materials
 - i. Regional Materials – Raw materials can be purchased from Vendors within 100 miles of the project location and fabrication of all materials in Bossier City, LA, U.S.A.
 - ii. Gordon's mission is to locate recycled materials that are not only of high recycled content, but extracted, produced, or extruded in the U.S.A.
 - d. Building Product Disclosure and Optimization - Material Ingredients
 - i. Full disclosure of material recycled content is available.
 - e. Construction and Demolition Waste Management
 - i. Most products shipped from our plant are engineered to fit and reduce field cutting during installation.
 - a) Fewer indoor air quality problems
 - b) Less scrap and debris – cleaner work environment
 - c) Less noise pollution caused by field cutting of materials

- d) Maintain comfort and well-being of workers and occupants

2. Indoor Environmental Quality

a. Low-Emitting Materials

- i. Gordon's State-of-the-art Powder Coating line produces the highest quality powder coated surfaces while also contributing to our sustainability drive.
 - a) No heavy Metals used in pre-treatment
 - b) Processed water is fully compliant for introducing into waste stream
 - c) Extremely efficient use of powder coating through reclamation system reducing powder wastage
 - d) Factory finished products shipped from our plant eliminates field painting
 - 1. Prevents odorous and irritating air contaminants
 - 2. Introduces no hazardous waste
 - 3. Contributes no VOCs
 - 4. Maintains comfort and well-being of workers and occupants

b. Thermal Comfort

- i. Gordon acoustical ceilings and walls aid in providing Thermal Comfort Control with encapsulated acoustical media containing insulation or nonwoven acoustical fabric for insulative purposes to meet the requirements of ASHRAE Standard 55–2010, Thermal Comfort Conditions for Human Occupancy.

c. Interior Lighting

- i. Gordon's AAMA 2604 powder coat finishes can provide the proper light reflectance to improve illumination in the space and reduce lumen output requirements.

d. Acoustic Performance

- i. Gordon manufactures a vast array of ceiling and wall systems that provide acoustical performance to meet Noise Reduction Coefficient (NRC) and Reverberation Time (RT) requirements.
- ii. Gordon's Mullion Mate provides STC value for transitions at the building perimeter and curtainwall.
- iii. Gordon acoustical ceiling and wall systems reduce noise to 45 dBA max as well as meet the Reverberation Time (RT) requirements of ANSI Standard S12.60-2002, Acoustical Performance Criteria, Design Requirements and Guidelines for Schools.
- iv. Gordon systems utilize effective acoustical design, providing improved speech intelligibility between teachers and their students as well as among student work groups. As a result, background noise is reduced in classrooms to 40 dBA or less.

3. Innovation

a. Innovation

- i. Gordon is a strategic partner with the design community and continuously finds ways to design products that can aid in improving environmental performance.

b. LEED Accredited Professional

- i. Gordon has LEED Accredited Professionals on staff to assist with your sustainability requirements

4. Detailed explanation of LEED Credits and Gordon, Inc.'s Contribution can be located at <http://www.gordon-inc.com/company/sustainability/>.

F. Product Test Reports:

1. All products furnished shall have a flame spread classification of 0-25 for a Class A or Class 1 rating in accordance with ASTM E84.
2. All products furnished shall be tested in accordance with ASTM C-423-90 for Sound Absorption. Test results for a Type E-400 ceiling mounting method shall yield an NRC (Noise Reduction Coefficient) of no less than 0.9.

G. Closeout Submittals

1. Provide Manufacturer's Cleaning and Maintenance Instructions
2. Warranty Documents

1.06 QUALITY ASSURANCE:

- A. Manufacturers' Qualifications: Firm with manufacturing and delivery capacity required for the project, shall have successfully completed at least ten (10) projects within the past five (5) years, utilizing systems, materials, and techniques as herein specified.
- B. Fabricator must own and operate its own manufacturing facilities for all metal components. Systems consisting of components from a variety of Manufacturers will not be considered or accepted.
- C. Manufacturer/Fabricator must own and operate its own painting and finishing facility to assure single source responsibility and quality control.
- D. Installer's Qualifications: Firm with not less than three (3) years of successful experience in the installation of systems similar to those required by this project and acceptable to the Manufacturer of the System.
- E. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, with the experience and capability to conduct testing indicated, as documented according to ASTM E 548.

1.07 PRODUCT DELIVERY, STORAGE AND HANDLING:

- A. Deliver Panels and all system hardware to the job site in Manufacturer's original packaging, unopened and undamaged, just prior to installation.
- B. Avoid warpage and damage by storing Panels and all system hardware above floor, flat and in a dry, humidity and temperature controlled interior location.
- C. Follow Manufacturer's instructions and exercise care during off loading, handling, and installation to avoid damage and marring of finishes.

1.08 WARRANTY:

- A. Furnish Manufacturer's:

1. Warranty that materials furnished will perform as specified for a period of not less than one (1) year from material shipment when installed in accordance with Manufacturer's recommendations. **Note that ALPRO® Ceiling Panels must be installed a minimum of 15' above the level of the water in a pool environment.**

PART 2 PRODUCTS

2.01 MANUFACTURERS:

- A. Acceptable System: ALPRO® Corrugate Acoustical Ceiling Panels for Natatoriums shall be manufactured by Gordon, Inc. For all inquiries contact, Gordon, Inc., 5023 Hazel Jones Road, Bossier City, LA 71111, (888) 733-3836 or (800) 747-8954.
- B. The listed Manufacturer shall not be construed as closing specifications to other prospective Manufacturers, but rather as establishing a level of quality in a metal system. Other systems may be submitted for approval, as provided for in the specifications at least ten (10) working days prior to submission of bids. Companies desiring to submit a proposal shall submit all descriptive information of the system proposed including photographs and Shop Drawings of at least three (3) projects similar in detail and scope.

2.02 PRODUCT CONSTRUCTION:

- A. ALPRO® Corrugate Acoustical Ceiling Panels for Natatoriums shall be manufactured of aluminum components. All Panels, Perimeter Trims, and Suspension Components, including Acoustical Components, shall be provided as a complete package of this work.
- B. Materials:
 1. Suspension System:
 - a. Extruded aluminum as manufactured by Gordon, Inc., shall consist of Main Tees and Cross Tees or Z-Furring. Provide Perimeter Angle, Perimeter Trim, and any necessary Clips and Splices required for a complete system as required to meet Local Building Codes.
 - b. Deflection of Grid shall be limited to L/360 of the span when full dead load is applied (ASTM C635).
 - c. Aluminum extrusions shall be 6063 T5 or T6 alloy (ASTM B221, ASTM B221M).
 - d. General: Provide metals free from surface blemishes where exposed to view in finished unit. Surfaces that exhibit pitting, seam marks, roller marks, stains, and discolorations, or other imperfections on finished units are not acceptable. All metal shall be of the highest-grade commercial type.
 2. Metal Panels:
 - a. For Panels, aluminum sheet shall be 3003-H14 alloy, minimum 0.032" (ASTM B209). Panels may be stucco-embossed or smooth aluminum.

- b. The metal acoustical Ceiling Panels shall be corrugated using ALPRO® pattern type [Select: A-I, A-O, B, C, D, E-I, E-O, F, H, or J]. Note: Pattern H corrugation is limited to Lay-In Systems only.
 - c. For perforated Panels, patterns to be 1/8" diameter holes on 21/64" staggered centers, approximately 13% open area.
- 3. Fasteners:
 - a. Fasteners must be NZF3000 coated Screws (#8-18 X 3/4" LG PH Self-Drilling Screws with DT2000 coating).
- 4. Sound Absorption Material:
 - a. Provide fiberglass 2" thickness X 1.5 # density. The fiberglass Panel shall be wrapped in Class A, per ASTM E84, Black Polyethylene or Black PVC.

2.03 FINISHES:

- A. All ALPRO® Corrugate Acoustical Panels and accessories shall receive a multi-stage pretreatment prior to receiving an electrostatically applied, AAMA 2604 powder coating finish.
- B. All cut edges, including perforated holes, must be coated.
- C. Paint color to be selected from ALPRO® Standard Colors.

2.04 FABRICATION:

- A. Provide factory curved Main Tees to specified radii, which is not smaller than 24".
- B. Provide Splice Clips as necessary to connect Main Tees. Provide 2-Way Clips to attach Cross Tees.
- C. For Lay-In Systems, pre-cut specified Panel to lay into specified module.

PART 3 EXECUTION

3.01 EXAMINATION:

- A. Examination of Surfaces: Installer must examine conditions under which work is to be performed and must notify Contractor in writing of unsatisfactory conditions.
- B. Verify that field measurements and block-out dimensions are as shown on Shop Drawings.

3.02 PREPARATION:

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the Manufacturer to achieve the best result for the project conditions.

3.03 INSTALLATION:

- A. General: Comply with Manufacturer's printed instructions, governing regulations for Seismic Codes, Local Building Codes, and the Ceiling & Interior Systems Construction Association Standards applicable to work.
- B. Space Enclosure: Do not install any work until space is enclosed and weatherproofed, wet-work in space is completed and nominally dry, work above ceilings is complete, and

temperature and humidity shall be continuously maintained at values near those of final occupancy.

3.04 CLEANING:

- A. Follow Manufacturer's cleaning instructions for specified finish.

3.05 PROTECTION:

- A. Procedures: Care should be taken during the remainder of construction to protect ALPRO® Corrugate Acoustical Ceiling Panels for Natatoriums from damage.
- B. Protection of Gordon, Inc. systems from damage by other trades after installation to be provided by the General Contractor.

END OF SECTION