THIS SECTION IS BASED ON ROCKFON SEQUENCE™ LINEAR METAL BEAM BAFFLE CEILINGS.

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes: Provide suspended ceiling acoustical ceiling panels including but not limited to:

1. Linear Metal Ceiling System.
2. Metal Suspension System & Perimeter Trim

B. Related Sections:

1. Section 09 21 16, Gypsum Board Ceilings.
2. Section 09 51 33.13, Acoustical Snap In Metal Pan Ceiling
3. Section 09 52 23, Metal Acoustical Ceiling Suspension Assemblies.
4. Section 09 54 00, Specialty Ceilings.
5. Section 09 58 00, Integrated Ceiling Assemblies.
6. Section 01 81 13, Sustainable Design Requirements
7. Section 01 81 19, Indoor Air Quality Requirements
8. Section 13 48 00, Sound, Vibration, and Seismic Control.
9. Section 23 50 00, Central Heating Equipment.
10. Section 26 50 00, Lighting.

1.3 REFERENCES

A. Abbreviations and Acronyms:

1. ASTM: American Society for Testing and Materials
2. CISCA: Ceilings & Interior Systems Construction Association; www.cisca.org.
3. IBC: International Building Code
4. ASCE 7 American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures
5. ICCES: International Code Council-Evaluation Services - AC 156 Acceptance Criteria for Seismic Qualification Testing of Non-structural Components
6. ICCES: International Code Council-Evaluation Services Report - ESR 2631 Rockfon Chicago Metallic Corporation Suspended Ceiling Framing Systems and Suspension Ceiling Systems
7. California Department of Public Health CDPH/EHLB Emission Standard Method Version 1.1 2010
8. LEED - Leadership in Energy and Environmental Design is a set of rating systems for the design, construction, operation, and maintenance of green buildings
9. International Well Building Standard
10. Mindful Materials
11. Living Building Challenge

B. Reference Standards:

1. ASTM B209 – Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
2. ASTM A1008 – Standard Specification for Steel, Sheet, Cold Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability
3. ASTM A653 – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process
4. ASTM C423 – Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method
5. ASTM C635/C635M – Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings
6. ASTM C636/C636M – Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels
7. ASTM D3273 – Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
8. ASTM C1338 – Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings
9. ASTM D6329 – Standard Guide for Developing Methodology for Evaluating the Ability of Indoor Materials to Support Microbial Growth Using Static Environmental Chambers
10. ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials
11. ASTM E580 – Installation of Metal Suspension Systems in Areas Requiring Moderate Seismic Restraint
12. ASTM E1264 – Classification for Acoustical Ceiling Products
13. ASTM C423 – Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method
14. UL 2818 -- GREENGUARD Certification Program For Chemical Emissions For Building Materials, Finishes And Furnishings
15. UL 2821 – GREENGUARD Certification Program Method for Measuring and Evaluating Chemical Emissions From Building Materials, Finishes and Furnishings
16. UL 2824 – GREENGUARD Certification Program Method For Measuring Microbial Resistance From Various Sources using Static Environmental Chambers

C. Alternates
1. Prior Approval: Unless otherwise provided for in the Contract documents, proposed product substitutions may be submitted no later than TEN (10) working days prior to the date established for receipt of bids. Acceptability of a proposed substitution is contingent upon the Architect's review of the proposal for acceptability and approved products will be set forth by the Addenda. If included in a Bid are substitute products that have not been approved by Addenda, the specified products shall be provided without additional compensation.
2. Submittals that do not provide adequate data for the product evaluation will not be considered. The proposed substitution must meet all requirements of this section, including but not necessarily limited to, the following: Single source materials suppliers (if specified in Section 1.5); Underwriters' Laboratories Classified Acoustical performance; Panel design, size, composition, color, and finish; Suspension system component profiles and sizes; Compliance with the referenced standards.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Meetings: Conduct meeting at Project site. Agenda includes Project conditions, coordination with work of other trades and layout of items which penetrate ceilings.

1.5 SUBMITTALS

A. Product Data: Submit manufacturer's Product data, including suspension system and maintenance data.

B. Samples: For components with factory-applied finishes.

C. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of sizes indicated below: 1. Acoustical Panels: Set of [full-size] [6 by 6 inches (150 by 150 mm)] Inches Samples of each type, color, pattern, and texture. 2. Exposed Suspension-System Members, Moldings, and Trim: Set of [6-inch- (150-mm-)] long Samples of each type, finish, and color. 3. Clips: Full-size [hold-down] [impact] [and] [seismic] clips.

D. Show Drawings: Necessary technical drawings and documents that pertain to the layout of the acoustical metal ceiling.

E. Sustainable Design Submittals:
1. Product Data: For recycled content, indicating pre-consumer recycled content and cost
2. Product Certificates: For indigenous materials, indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include distance to Project, means of transportation, and cost for each indigenous material.
3. Sourcing of Raw Materials:
4. Corporate sustainability report for each manufacturer.
5. Industry-Wide Environmental Product Declaration (IW EPD) Certifications: For select products.

F. Certifications: Acoustical metal ceiling product's certifications that confirm compliance with applicable tests and standards. Acoustical metal ceiling products must also contain information pertaining to certification for NRC.

1.6 INFORMATIONAL SUBMITALLS

A. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
1. Ceiling suspension-system members.
2. Structural members to which suspension systems will be attached.
3. Method of attaching hangers to building structure.
4. Furnish layouts for cast-in-place anchors, clips, and other ceiling attachment devices whose installation is specified in other Sections.
5. Carrying channels or other supplemental support for hanger-wire attachment where conditions do not permit installation of hanger wires at required spacing.
6. Size and location of initial access modules for acoustical panels.
7. Items penetrating finished ceiling and ceiling-mounted items including the following:
   a. Lighting fixtures.
   b. Diffusers.
   c. Grilles.
   d. Speakers.
   e. Sprinklers.
   f. Access Points.
   g. Perimeter moldings.
   h. Other items as required
8. Minimum Drawing Scale: [1/4 inch = 1 foot (1:48)] [1/8 inch = 1 foot (1:96)] [1:50] [1:100] .

B. Qualification Data: For testing agency.

C. Product Test Reports: For each linear metal ceiling, for tests performed by [manufacturer and witnessed by a qualified testing agency] [a qualified testing agency].

1.7 CLOSEOUT SUBMITTALS

A. Operational and Maintenance Data: Submit maintenance instructions to Owner for recommended cleaning materials and methods for panels and trim. Include precautions for use of and composition of cleaning materials detrimental to acoustic panels and trim.

1.8 MAINTENANCE MATERIAL SUBMITTALS

A. Supply additional material (full-size ceiling panels) equal to a percent of ceiling area. Additional material should match Products installed and have the appropriate labels and identification.

B. Supply extra materials that match Products installed and are packaged with protective covering for storage and identified with labels describing contents.

1.9 QUALITY ASSURANCE

A. Single-Source Responsibility: Provide linear metal ceiling panels and grid components by a single manufacturer.

B. Fire Performance Details: Suspension ceiling components will feature markings of applicable testing and inspecting organization.

C. Coordination of Work: Coordination between installers and other related professions in reference to acoustical ceiling work can include electrical fixtures and systems, fire safety systems, gypsum and building construction.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Protect system components from excessive moisture in shipment, storage, and handling. Deliver in unopened bundles and store in a dry place with adequate air circulation.

1.11 WARRANTY

A. Submit a written warranty executed by manufacturer for a period of **1 year** from date of Substantial Completion, agreeing to repair or replace metal ceiling products that fail or are compromised within the specified warranty period. The warranty does not cover any damage or change to the Products resulting from improper material handling or storage, water, moisture, fire, chemical fumes, bacteria, mold, fungi, wind, accident, disaster, non-intended use, improper installation, abuse, or failure of other system components or modification.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Metal Ceiling Systems:
1. Rockfon, 4849 South Austin Avenue, Chicago, IL 60638. 1-800-323-7164; www.rockfon.com.

B. Suspension Systems:
1. Rockfon, 4849 South Austin Avenue, Chicago, IL 60638. 1-800-323-7164; www.rockfon.com.

C. Aluminum Perimeter Trim:
1. Rockfon, 4849 South Austin Avenue, Chicago, IL 60638. 1-800-323-7164; www.rockfon.com.

D. Acoustical Infills/Supplements:
1. Rockfon, 4849 South Austin Avenue, Chicago, IL 60638. 1-800-323-7164; www.rockfon.com.

2.2 MATERIALS

A. **Basis of Design**: "SEQUENCE™ LINEAR METAL BEAM BAFFLE CEILINGS" by Rockfon with following characteristics:

1. Surface: Smooth
2. Composition: Metal
3. Material: 0.032" Aluminum
4. Edges: SQ

5. Surface-Burning Characteristics: For metal-pan assemblies, including backings, determined by testing in accordance with ASTM E84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

   a. Flame-Spread Index: [**25**] <**Insert value**> or less.
   b. Smoke-Developed Index: [**50**] [**55**] <**Insert value**> or less.

6. Baffle Width: **[1"] [2"]**

7. Baffle Height: **[2"] [4"] [6"] [8"] [10"] [12"]**

8. Baffle Length: **[96"] [120"] [Custom]**
   a. *Carrier Mount – Standard length is 96"
   b. *Grid Clip – Standard length is 120"
   c. *Maximum Length – 120"

9. Baffle On-Center Spacing: **[2"] [4"] [6"] [8"] [10"] [12"] [Other]**

10. Color: Select one from Manufacturer's standard offering
   a. [Standard Finishes – Baked-on Coil Coated Finish]: **[01 White] [08 Black] [44 Satin Silver] [888 Winchester Grey]**

   b. [Premium Color Finish]: **[Custom] [RAL]**

   c. [Color-All™]: **[709 Charcoal] [706 Concrete] [723 Hemp] [701 Stone] [751 Mustard] [730 Sand] [720 Stucco] [771 Scarlet] [776 Coral] [775 Seashell] [774 Petal] [734 Seaweed] [732 Eucalyptus] [731 Sage] [712 Mint] [749 Space] [748 Storm] [747 Azure] [742 Fresh] [725 Earth] [726 Clay] [722 Linen] [713 Sandalwood] [721 Chalk] [728 Ebony] [724 Cork] [718 Iron] [704 Mastic] [705 Zinc] [762 Mercury] [708 Anthracite] [703 Gravel] [702 Plaster] [710 Moon]**

   d. [Woodlands™ Finishes – Architectural Baked-on Coil Coated Finish]: **[550 Canyon Walnut] [551 Nordic Oak] [552 Desert Pine] [553 Mountain Ashwood]**

e. [Metalwood® Finishes – Woodgrain Laminate Finish]: **[650R Maple] [651R Cherry] [652R Pumpkin Maple] [653R Oak] [654R Karri] [655R Bamboo] [656R Walnut] [657R Coastal Walnut] [660R Honey Oak] [662R Natural Walnut]**

f. [Woodscenes® Finishes – Dye Sublimated Woodgrain Finish]: **[800 Lazy Maple] [803 Burnished Cherry] [807 Coastal Walnut] [808 Vanilla Maple] [809 Sunrise Maple] [811 Regal Walnut] [812 Raven Walnut] [813 Smoky Ashwood] [814 Savannah Driftwood] [815 Velvet Walnut] [816 Rustic Oak] [817 Midnight Cherry]**

11. Perforation Option: To be perforated on sides of baffles only – bottom face to remain solid: **[Solid] [D - 98R216L – 16.2% Open Area] [E – 71R138D – 20.8% Open Area] [V - 62R250D – 4.9% Open Area]**

12. Recycled Content: up to 78%

B. Accessories:
1. Sequence Baffle Splices: 12 inch length, manufactured from 0.032” aluminum in **[black baked-on polyester enamel] [finish identical to baffle color]**
2. End Caps: Manufactured from 0.032” aluminum to match baffle width and height in **[finish identical to baffle color]**
3. Perimeter Trim
   a. Rockfon Infinity™: extruded aluminum perimeter trim
      1) Profile Height: **[2”] [4”] [6”] [8”] [10”] [12”]**
      2) Profile Color: Color: **[Standard Finishes -- Baked-on Coil Coated Finish] [Premium Color Finish] [Rockfon Color-All™] [Woodscenes® Finishes – Dye Sublimated Woodgrain Finish]**
   b. Wall Angle: Choose from manufacturer’s standard offering

C. Suspension System: Choose one of the following:
1. **RockLock™ Baffle Carrier System:**
   a. Manufactured to an inverted "U" shape from 0.032 inch aluminum, 120 inches long.
   b. Notched at custom spacings to match baffle project spacing to receive Sequence Linear Metal Beam Baffles
   c. Seismic: Category A, B
   d. Notch Width: To match baffle width
   e. Notch Spacing: **[2”] [4”] [6”] [8”] [10”] [12”] [Custom]**
   f. Color: **[Standard Finishes -- Baked-on Coil Coated Finish] [Premium Color Finish] [Rockfon Color-All™] [Woodlands™ Finishes – Architectural Baked-on Coil Coated Finish] [Metalwood® Finishes – Woodgrain Laminate Finish] [Woodscenes® Finishes – Dye Sublimated Woodgrain Finish]**
   g. Acoustical Treatment: **[Acoutex™ Nonwoven Fabric Backer] [Rockfon® Stone Wool Infill]**

2. Rockfon Cubegrid®:
   a. 360° Painted suspension grid, consisting of main runners and cross tees with a hot-dipped galvanized base and capping
   b. Manufactured to receive no un-used slotting or hanger holes for clean aesthetics.
   c. Face: 15/16”
   d. Color: **[Standard Finishes -- Baked-on Coil Coated Finish] [Premium Color Finish] [Rockfon Color-All™]**
   e. Module Size: **[4’x4’] [2’x4’] [2’x2’] [Custom]**

1) *Standard module size is 4'x4'. Modules may vary based on acoustical panel being used or seismic considerations.

f. Acoustical Treatment: **[Acoutex™ Nonwoven Fabric Backer] [Rockfon® Stone Wool Infill] [Rockfon® Cinema Black™ Stone Wool Panel 5/8" Thickness] [Rockfon® Cinema Black™ Stone Wool Panel 1" Thickness]**

3. Rockfon 1200 Seismic Suspension Grid®:

a. Suspension grid, consisting of main runners and cross tees with a hot-dipped galvanized base and pre-painted capping, with 360° painting available
b. Face: 15/16"
c. Seismic: Categories A-F
d. Color: **[Standard Finishes -- Baked-on Coil Coated Finish] [Premium Color Finish] [Rockfon Color-All™]**
e. Painting: **[One-Side] [360° Painting]**
f. Baffle Acoustical Treatment: **[Acoutex™ Nonwoven Fabric Backer] [Rockfon® Stone Wool Infill] [Rockfon® Cinema Black™ Stone Wool Panel 5/8" Thickness] [Rockfon® Cinema Black™ Stone Wool Panel 1" Thickness]**

4. Independently Suspended:

a. Suspension kit, consisting of baffle attachment clips and adjustable hanging kits to support baffles freely in space
b. Baffle Acoustical Treatment: **[Acoutex™ Nonwoven Fabric Backer] [Rockfon® Stone Wool Infill]**

D. Acoustical Material: Choose one of the below configurations based on required NRC, installation method and aesthetic preference.

1. Configuration 1 -- Perforated Baffles with installed into 15/16" Suspension or RockLock Carrier with **[Acoutex™ Nonwoven Fabric Backer] [Rockfon® Stone Wool Infill]**
   a. **NRC:** [0.50 – 1.50], measured in accordance with ASTM C423.

2. Configuration 2 – Solid Baffles installed into 15/16" suspension with **[Rockfon® Cinema Black™ Stone Wool Panel 5/8" Thickness] [Rockfon® Cinema Black™ Stone Wool Panel 1" Thickness]**
   a. **NRC:** [0.80 – 0.95], measured in accordance with ASTM C423.
   b. Panel Size: **[2'x4'] [2'x2'] [Custom]**
   c. Fire Class: Class A in accordance with UL 723 ASTM E84:
      Flame Spread Index: [no higher than 5]
      Smoke Developed Index: [0]
   d. GWP (A1-A3): [15 mm (5/8 inch)]: 0.226 kg CO_2-eq/ft^2/ 2.43 kg CO_2-eq/m^2
   e. Provide acoustical panels without any added antimicrobial treatments; that are inherently resistant to fungus, mold, mildew, and gram-positive and gram-negative bacteria with a rating of 10; and that show no mold, mildew, or bacterial growth after 28-days of exposure when tested in accordance with ASTM D3273 [Level 10 – No Mold Growth] and ASTM C1338 [Pass – No Fungal Growth].
   f. Sag and warp resistant in 100% relative humidity and tested to ASTM C367.

3. Configuration 3 – Independently suspended baffles with **[Rockfon® Cinema Black™ Stone Wool Panel 5/8" Thickness] [Rockfon® Cinema Black™ Stone Wool Panel 1" Thickness]**
   a. **Sabins/Baffle:** [_____], measured in accordance with ASTM C423.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine suspension assemblies, with installer present, for compliance with requirements specified in this and other Sections affecting ceiling panel installation and with requirements for installation tolerances and other conditions affecting performance of acoustic ceiling assemblies.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Measure each ceiling area and establish layout of linear baffle ceilings to balance borders at opposite edges of each ceiling. Comply with layout shown on reflected ceiling plans or manufacturer signed and approved shop drawings if provided.

B. Layout openings for penetrations centered on the penetrating items.

3.3 INSTALLATION

A. Install ceiling panels to comply with ASTM C636/C636M, ASTM E580, and seismic design requirements indicated, according to manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."

B. General:
1. For interior applications in non-seismic areas install in accordance with ASTM C636 (see 1.03, A 2.).
2. For interior applications in seismic areas install in accordance with ASTM E 580

C. Integrated Accessories
1. Insulation trimmed to fit and installed in plenum between carriers.

3.4 REPAIR

A. Remove damaged or compromised components; replace with undamaged components.

3.5 CLEANING

A. Clean exposed surfaces in accordance with manufacturer’s written instructions.

END OF SECTION