SECTION 09 51 13

AXIOM® INDIRECT LIGHT COVE PERIMETER SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general conditions of Contract, including General and Supplementary Conditions and Divisions-1 Specification sections apply to work of this section.

1.2 SUMMARY

A. Section Includes:

1. Pre-engineered perimeter transition system

B. Related Sections:

1. Section 09 51 00 – Acoustical Ceilings

2. Section 09 20 00 – Plaster and Gypsum Board

3. Divisions 23 – HVAC

4. Section 26 50 00 Lighting

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 which 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); panel design, size, composition, color, and finish; suspension system component profiles and sizes; compliance with the referenced standards.

1.3 REFERENCES

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

1. ASTM C 635 Standard Specifications for Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.
2. ASTM C 636 Recommended Practices for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.
3. ASTM E 580 Installation of Metal Suspension Systems in Areas Requiring Moderate Seismic Restraint
4. ASCE 7 American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures

5. International Code Council-Evaluation Services - AC 156 Acceptance Criteria for Seismic Qualification Testing of Non-structural Components
6. LEED - Leadership in Energy and Environmental Design is a set of rating systems for the design, construction, operation, and maintenance of green buildings

B. American National Standards Institute (ANSI)
1. ANSI H35.1 Properties and Characteristics of Wrought Aluminum Alloys

1.4 SYSTEMS DESCRIPTION

Build Type / Finished Form as selected by customer

1.5 SUBMITTALS

A. Product Data: Submit manufacturer's technical data for perimeter components and each type of suspension system required.
B. Samples: Minimum 3-inch-wide samples of specified component.
C. Shop Drawings: Layout and details of acoustical ceilings. Show locations of items that are to be coordinated with, or supported by the ceilings.

1.6 SUSTAINABLE MATERIALS

A. Transparency: Manufacturers will be given preference when they provide documentation to support sustainable requirements for the following: Material ingredient transparency, Removal of Red List Ingredients per LBCV3, Life Cycle impact information, Low-Emitting Materials, and Clean Air performance.
   1. Health Product Declaration (HPD). The end use product has a published, complete Health Product Declaration with disclosure at a minimum of 1000ppm of known hazards in compliance with the Health Product Declaration Open Standard.
   2. Declare Label. The end use product has a published Declare label by the International Living Future Institute with disclosure of 100 ppm with a designation of Red List Free or Compliant (less than 1% proprietary ingredients).
   3. Low Emitting products with VOC emissions data. Preference will be given to manufacturers that can provide emissions data showing their products meet any of the following: CDPH/EHLB/Standard Method v1.2-2017; Indoor Air Quality Certified to SCS-105 v4.2-2023 [Gold VOC Certificate OR Clearchem]
   4. Life cycle analysis. Products that have communicated lifecycle data through Environmental Product Declarations (EPDs) will be preferred.
   5. End of Life Programs/Recycling: Where applicable, manufacturers that provide the option for recycling of their products into new products at end-of-life through take-back programs will be preferred.
   6. Products meeting LEED V5 requirements including:
      i. Storage & Collection of Recyclables
      ii. Construction and Demolition Waste Management Planning

iii. Building Life-Cycle Impact Reduction
iv. Building Product Disclosure and Optimization Environmental Product Declarations
v. Building Product Disclosure and Optimization Sourcing of Raw Materials
vi. Building Product Disclosure and Optimization Material Ingredients
vii. Construction and Demolition Waste Management

1.7 QUALITY ASSURANCE

A. Single-Source Responsibility: Provide perimeter trim components and grid components by a single manufacturer.

B. Coordination of Work: Coordinate acoustical ceiling work with installers of related work including, but not limited to building insulation, gypsum board, light fixtures, mechanical systems, electrical systems, and sprinklers.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver perimeter trim components to project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.

B. Before installing components permit them to reach room temperature and stabilized moisture content.

C. Handle components carefully to avoid damage.

1.9 PROJECT CONDITIONS

A. Space Enclosure:

Building areas to receive ceilings shall be free of construction dust and debris. Products with can be installed up to 120°F (49°C) and in spaces before the building is enclosed, where HVAC systems are cycled or not operating. Cannot be used in exterior applications where standing water is present or where moisture will come in direct contact with the ceiling.

1.10 WARRANTY

A. Perimeter Transition System: Submit a written warranty executed by the manufacturer, agreeing to repair or replace components that fail within the warranty period. Failures include, but are not limited to:

1. Rusting and manufacturer’s defects

B. Warranty Period:

1. Perimeter Transition Components: Ten (10) years from date of substantial completion.

2. Armstrong commercial transition components, suspension systems and ceiling products have a thirty (30) year warranty when installed together and used under normal conditions.

C. The Warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

PART 2 - PRODUCTS

Attention Design Professional: Please edit Part 2 based on your project needs. Select product attributes and acceptable product item (s) that fit with the requirements of your project. Delete all items from the specification that do not relate to your project needs. Please refer to the Armstrong website for additional ceilings, suspension systems, perimeter trim options, and accessories. The related guide specifications for each of these items are available on the Armstrong website.

2.1 MANUFACTURERS

A. Ceiling Panels:

1. Armstrong World Industries

B. Suspension Systems:

1. Armstrong World Industries

C. Axiom® Indirect Light Coves

1. Armstrong World Industries

D. Lighting Fixture

1. Standard Cove Light Fixtures
2. Vode® Lighting ZipWave™, Axis Lighting Cove Perfekt™ or Litecontrol 17L fixtures.

2.2 ACOUSTICAL CEILING UNITS (select the appropriate ACT panel, suspension system and suspension system hub before finalizing the specification)

A. Acoustical Panels Type ACT (Calla® Panel Selection):

1. Surface Texture: Smooth
2. Composition: Mineral Fiber
3. Color: White
4. Size: Refer to drawings
5. Edge Profile: Square Tegular for 9/16IN interface, Square Tegular or Lay-In for 15/16IN interface.
6. Noise Reduction Coefficient (NRC): ASTM C 423; Classified with UL label on product carton 0.85.
7. Ceiling Attenuation Class (CAC): ASTM C 1414; Classified with UL label on product carton 39.
8. Sabin: N/A
9. Articulation Class (AC): ASTM E 1111; 170
10. Flame Spread: ASTM E 1264; Class A (HPVA)
11. Light Reflectance White Panel: ASTM E 1477; 0.86
12. Dimensional Stability: HumiGuard Plus
13. Recycle Content: Post-Consumer - 3% Pre-Consumer Waste - 73%

14. Acceptable Product: Calla, as manufactured by Armstrong World Industries

B. Acoustical Panels Type ACT (Lyra® Panel Selection):

1. Surface Texture: Fine
2. Composition: Fiberglass
3. Color: White
4. Size: Refer to drawings
5. Edge Profile: Square Tegular for 9/16IN interface, Square Tegular or Lay-In for 15/16IN interface.
6. Noise Reduction Coefficient (NRC): ASTM C 423; Classified with UL label on product carton, .95
7. Ceiling Attenuation Class (CAC): ASTM C 1414; Classified with UL label on product carton, N/A
8. Flame Spread: ASTM E 1264; Class A
9. Light Reflectance (LR): ASTM E 1477; White Panel: Light Reflectance: 0.88
10. Dimensional Stability: HumiGuard Plus - Temperature is between 32°F (0° C) and 120°F (49° C). It is not necessary for the area to be enclosed or for HVAC systems to be functioning. All wet work (plastering, concrete, etc) must be complete and dry.
11. Antimicrobial Protection
12. Acceptable Product: Lyra, as manufactured by Armstrong World Industries

C. Acoustical Panels Type ACT (Ultima® Panel Selection):

1. Surface Texture: Fine
2. Composition: Mineral Fiber
3. Color: White
4. Size: Refer to drawings
5. Edge Profile: Tegular for 9/16IN interface, Tegular or Lay-In for 15/16IN interface
6. Noise Reduction Coefficient (NRC): ASTM C 423; Classified with UL label on product carton, up to .75
7. Ceiling Attenuation Class (CAC): ASTM C 1414; Classified with UL label on product carton, up to 40
8. Flame Spread: ASTM E 1264; Class A
9. Light Reflectance (LR): ASTM E 1477; White Panel: Light Reflectance: 0.90
10. Dimensional Stability: HumiGuard Plus - Temperature is between 32°F (0° C) and 120°F (49° C). It is not necessary for the area to be enclosed or for HVAC systems to be functioning. All wet work (plastering, concrete, etc) must be complete and dry.
11. Recycle Content: Post-Consumer - 1% - 2% Pre-Consumer Waste - 76%
12. Acceptable Product: Ultima, as manufactured by Armstrong World Industries

D. Acoustical Panels Type ACT (Optima Panel Selection):

1. Surface Texture: Fine
2. Composition: Fiberglass
3. Color: White
4. Size: Refer to drawings
5. Edge Profile: Square Tegular 9/16IN for interface, Square Tegular or Lay-In for 15/16IN interface .
6. Noise Reduction Coefficient (NRC): ASTM C 423; Classified with UL label on product carton, up to 1.00
7. Ceiling Attenuation Class (CAC): ASTM C 1414; Classified with UL label on product carton, 26
8. Flame Spread: ASTM E 1264; Class A

9. Light Reflectance (LR): ASTM E 1477; White Panel: Light Reflectance: 0.90
10. Dimensional Stability: HumiGuard Plus - Temperature is between 32°F (0° C) and 120°F (49° C). It is not necessary for the area to be enclosed or for HVAC systems to be functioning. All wet work (plastering, concrete, etc) must be complete and dry.
11. Recycle Content: Post-Consumer - 1% - 2% Pre-Consumer Waste - 71%
12. Acceptable Product: Optima®, as manufactured by Armstrong World Industries

2.3. ACOUSTICAL SUSPENSIONS SYSTEM

A. Acoustical Suspension System:

I. Prelude® Selection

1. Composition: Hot-dipped Galvanized Steel
2. Color: White, Standard, Premium, Powder-Coated Finish or Custom Color
3. Profile Height: 1-11/16in
4. Profile: PeakForm® with SuperLock™ Main runner clip and XL² Stake-on end detail on Cross-tee
5. Flange" 15/16"
6. Acceptable Product: Prelude® XL® 15/16" Exposed Tee System as manufactured by Armstrong World Industries.

II. Suprafine® Selection

1. Composition: Hot-dipped Galvanized Steel
2. Color: White, Standard, Premium, Powder-Coated Finish or Custom Color
3. Profile Height: 1-11/16in
4. Profile: PeakForm® with SuperLock™ Main runner clip and XL² Stake-on end detail on Cross-tee
5. Flange" 9/16"
6. Acceptable Product: Suprafine® XL® 9/16" Exposed Tee System as manufactured by Armstrong World Industries.

III. Interlude® Selection

1. Composition: Hot-dipped Galvanized Steel
2. Color: White, Standard, Powder-Coated Finish or Custom Color
3. Profile Height: 1-11/16in
4. Profile: Square bulb with XL² Stake-on clips on Main runner and Cross-tee
5. Flange: 9/16" Interlude dimensional design
6. Acceptable Product: Interlude® XL® 9/16" Dimensional Tee System as manufactured by Armstrong World Industries.

III. Silhouette® 1/4" Selection

1. Composition: Hot-dipped Galvanized Steel
2. Color: White, Standard, Powder-Coated Finish or Custom Color
3. Profile Height: 1-3/4in
4. Edge Profile: for interface with Silhouette® XL® 9/16" Bolt Slot - 1/4" Reveal.
5. Flame Spread: ASTM E 1264;
6. Acceptable Product: Silhouette XL 9/16" Bolt Slot - 1/4" Reveal, as manufactured by Armstrong World Industries.

IV. Armstrong Silhouette® 1/8" Selection

1. Composition: Hot-dipped Galvanized Steel
2. Color: White, Powder-Coated Finish or Custom Color

3. Profile Height: 1-3/4in
4. Edge Profile: for interface with Silhouette XL 9/16" Bolt Slot - 1/8" Reveal.
5. Flame Spread: ASTM E 1264;
6. Acceptable Product: Silhouette® XL® 9/16" Bolt Slot - 1/8" Reveal, 76198 as manufactured by Armstrong World Industries.

2.4 PERIMETER INDIRECT LIGHT COVES

A. Product/Manufacturer: Axiom® Indirect Light Coves; Armstrong World Industries, Inc.

1. Material Ingredient Transparency: Health Product Declaration (HPD); Declare Label
2. Life Cycle Assessment: Third Party Certified Environmental Product Declaration (EPD)
3. Indoor Air Quality Certified to SCS-105 v4.2-2023

B. System: An extruded aluminum light cove system fully concealed integrated design to create a light cove profile. Installs with Armstrong® Ceiling Solutions acoustical and drywall suspension systems. Commercial quality extruded aluminum alloy 6063 trim channel, factory finished in baked polyester paint (white) color to match intersecting grid system. Commercial quality aluminum unfinished t-bar connection clips; galvanized steel splice plates.

C. Components:

1. Axiom® Indirect Light Cove Systems: Aluminum extrusions factory attached to formed aluminum with a distinct architectural detail grooves to accept the Axiom Light Fixture Alignment Clip (ALFAC). Installed without the ALFAC, Axiom® Indirect Light Coves accept any Standard Light Cove Fixture (recommended fixture weight 2lbs/lft). Installed with the ALFAC, Axiom® Indirect Light Coves deliver aim free predictable performance with Axis Lighting Cove Perfekt, Vode Lighting ZipWAVE or Litecontrol 17L light fixture. Special bosses are designed to connect AXTBC T-bar connector clip and splice plate; to provide positive mechanical lock with no visible fasteners. Factory finished matching approved samples.

2. Axiom® Indirect Light Cove Straight sections:

A. Axiom Indirect Ceiling Light Coves

1. AXIDLCC812 – 4” Classic Profile Ceiling Cove – Straight – 12” Height, 120” Length

2. AXIDLCKE812 – Knife Edge for ACT Ceiling Cove – Straight – 12” Height, 120” Length

3. AXIDLCKD812 – Knife Edge for Drywall Ceiling Cove – Straight – 12” Height, 120” Length

4. AXIDLCC1014 – 4” Classic Profile Ceiling Cove – Straight – 14” Height, 120” Length

5. AXIDLCKE1014 – Knife Edge for ACT Ceiling Cove – Straight – 14” Height, 120” Length

6. AXIDLCKD1014 – Knife Edge for Drywall Ceiling Cove – Straight – 14” Height, 120” Length

B. Axiom Indirect Wall Light Coves

1. AXIDLWC48 – 4” Classic Profile Wall Cove – Straight – 8” Height, 120” Length

2. AXIDLWKE48 – Knife Edge for ACT Wall Cove – Straight – 8” Height, 120” Length

3. AXIDLWKD48– Knife Edge for Drywall Wall Cove – Straight – 8” Height, 120” Length

4. AXIDLWC610 – 4” Classic Profile Wall Cove – Straight – 10” Height, 120” Length

5. AXIDLWKE610 – Knife Edge for ACT Wall Cove – Straight – 10” Height, 120” Length

6. AXIDLWKD610 – Knife Edge for Drywall Wall Cove – Straight – 10” Height, 120” Length

3. Axiom® Indirect Light Cove Corners, each corner is factory finished and sided to accommodate the straight section of the axiom indirect light cove.

A. Axiom Indirect Ceiling Light Cove Corners

1. AXIDLCC812IC – 4” Classic Profile, 12” Height, Ceiling Inside Corner

2. AXIDLCKE812IC – Knife Edge for ACT, 12” Height, Ceiling Inside Corner

3. AXIDLCKD812IC – Knife Edge for Drywall, 12” Height, Ceiling Inside Corner

4. AXIDLCC812OC – 4” Classic Profile, 12” Height, Ceiling Outside Corner

5. AXIDLCKE812OC – Knife Edge for ACT, 12” Height, Ceiling Outside Corner

6. AXIDLCKD812OC – Knife Edge for Drywall, 12” Height, Ceiling Outside Corner

1. AXIDLCC1014IC – 4” Classic Profile, 14” Height, Ceiling Inside Corner

2. AXIDLCKE1014IC – Knife Edge for ACT, 14” Height, Ceiling Inside Corner

3. AXIDLCKD1014IC – Knife Edge for Drywall, 14” Height, Ceiling Inside Corner

4. AXIDLCC1014OC – 4” Classic Profile, 14” Height, Ceiling Outside Corner

5. AXIDLCKE1014OC – Knife Edge for ACT, 14” Height, Ceiling Outside Corner

6. AXIDLCKD1014OC – Knife Edge for Drywall, 14” Height, Ceiling Outside Corner

A. Axiom Indirect Wall Light Cove Corners

1. AXIDLWC48IC – 4” Classic Profile, 8” Height, Wall Inside Corner

2. AXIDLWKE48IC – Knife Edge for ACT, 8” Height, Wall Inside Corner

3. AXIDLWKD48IC – Knife Edge for Drywall, 8” Height, Wall Inside Corner

4. AXIDLWC48OC – 4” Classic Profile, 8” Height, Wall Outside Corner

5. AXIDLWKE48OC – Knife Edge for ACT, 8” Height, Wall Outside Corner

6. AXIDLWKD48OC – Knife Edge for Drywall, 8” Height, Wall Outside Corner

1. AXIDLWC610IC – 4” Classic Profile, 10” Height, Wall Inside Corner

2. AXIDLWKE610IC – Knife Edge for ACT, 10” Height, Wall Inside Corner

3. AXIDLWKD610IC – Knife Edge for Drywall, 10” Height, Wall Inside Corner

4. AXIDLWC610OC – 4” Classic Profile, 10” Height, Wall Outside Corner

5. AXIDLWKE610OC – Knife Edge for ACT, 10” Height, Wall Outside Corner

6. AXIDLWKD610OC – Knife Edge for Drywall, 10” Height, Wall Outside Corner

4. Axiom® Indirect Light Cove Accessories

1. AXM34 – Axiom Straight Wall Molding (for use with the Axiom Indirect Wall Light Cove, included with order)

2. AXCCLT45 – 45 Degree Tee Bar Connector Twist (for use with Knife Edge Axiom Trim, included with order)

3. AXTBC – T-Bar Connector Clip (for use with Classic Axiom Trim, included with order)

4. AX4SPLICE – Axiom splice Plate (included with order)

5. ALFAC – Axiom Light Fixture Alignment Clip (For use with Axis and Vode partner fixtures)

5.AXBTSTR – Axiom Drywall Bottom Trim (For use with the 4” Classic Profile cove only)

2.5 LIGHTING FIXTURE

A. Standard Cove Light Fixtures (recommended 2lbs/lft fixture weight)

B. Product Name: Axis Cove Perfekt, Vode ZipWave or Litecontrol 17L

1.Product/Manufacturer: Axis, Vode or Litecontrol

C. Ceiling Grid Compatibility: Armstrong World Industries

D. Color: Finished Trim in white

PART 3 - EXECUTION

3.1 EXAMINATION

A. Do not proceed with installation until all wet work such as concrete, terrazzo, plastering and painting has been completed and thoroughly dried out, unless expressly permitted by manufacturer's printed recommendations.

3.2 PREPARATION

A. Coordinate panel layout with mechanical and electrical fixtures.

3.3 INSTALLATION

A Install suspension system and panels in accordance with manufacturer's instructions, and in compliance with ASTM C 636 and with the authorities having jurisdiction

1. Install seismic components if required by the building code. Seismic components to be specified on the architectural plans by the project engineer or design team.
2. Refer to the manufacture's indirect light cove installation instructions as a reference when installing this product.

3.4 ADJUSTING AND CLEANING

A. Clean exposed surfaces of trim, edge moldings, and suspension members. Comply with manufacturer's instructions for cleaning and touch up of minor finish damage. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION