

## SECTION 09 53 00 (09800) - Suspended Acoustic Baffles

This Section is based on TECHLITE Accent Linear Ceiling Baffles.

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes TECHLITE'S Accent Linear Ceiling Baffles.
- B. Furnish and install all linear baffles and associated installation accessories as shown on the drawings, and specified herein, or as required to complete the work.
- C. Related Documents: This section applies to drawings and general provisions of the subcontract. Review these documents for coordination with additional requirements and information that apply to work under this section. Cross-reference approved supplementary manufacturers' linear baffles and required installation accessories including, but not limited to construction-grade adhesive, corkscrews, eye bolt hangers, hanger wire, c-channel, etc., where applicable.

#### 1.2 REFERENCES

- A. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. ASTM E1264 - Standard Classification for Acoustical Ceiling Products.
- C. ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.

#### 1.3 SYSTEM DESCRIPTION

THE FOLLOWING BAFFLES WERE TESTED AS FREE HANGING AND PARALLEL TO EACH OTHER WITH 24" SEPARATING EACH BAFFLE. BAFFLES WERE HUNG WITH THE 12" LENGTH PARALLEL TO THE FLOOR.

##### A. Performance Requirements

- 1. Provide sound absorptive linear baffle system designed and tested to provide a Class A flame spread rating when tested in accordance with ASTM E84, unless otherwise specified.
  - a. Flame spread: 25 maximum.
  - b. Smoke Developed: 50 maximum.
- 2. Provide sound absorptive linear baffle system which has been manufactured, fabricated, and installed to provide an Apparent Noise Reduction Coefficient (Apparent NRC) rating as follows, in accordance with ASTM C423-09A:
  - a. Apparent Noise Reduction Coefficient 0.80 Type J Mounting suspended from corkscrew hangers and aircraft cable for 12 inches x 96 inches long
  - b. Apparent Noise Reduction Coefficient 0.80 Type J Mounting suspended from c-channel for 12 inches x 96 inches long
- 3. Provide sound absorptive linear baffle system which has been manufactured, fabricated and installed to provide the following total absorption over the following frequencies in Sabins:

Specimen Absorption (US)		
Freq. (Hz)	Sabins	Sabins/Unit
31.5	9.60	1.37
40	-4.51	-0.64
50	-2.88	-0.41
<b>63</b>	0.03	0.00
80	6.95	0.99
100	5.60	0.80
<b>125</b>	6.68	0.95
160	11.12	1.59
200	16.30	2.33
<b>250</b>	23.59	3.37
315	38.48	5.50
400	46.09	6.58
<b>500</b>	67.46	9.64
630	80.43	11.49
800	102.52	14.65
<b>1,000</b>	112.03	16.00
1,250	118.18	16.88
1,600	118.38	16.91
<b>2,000</b>	119.43	17.06
2,500	118.50	16.93
3,150	116.10	16.59
<b>4,000</b>	113.66	16.24
5,000	115.50	16.50
6,300	113.71	16.24
<b>8,000</b>	113.98	16.28
10,000	117.76	16.82

## 1.4 SUBMITTALS

- A. Product Data: Manufacturer's technical data for linear ceiling baffle system.
- B. Selection and Verification Samples: One (1) 6 inch by 6 inch sample for verification.
- C. Shop Drawings: Layout and details of Linear Baffles. Show locations of items which are to be coordinated with, or supported by the structural ceilings.
- D. Closeout Submittals:

1. Operating and Maintenance Manual, including cleaning and maintenance instructions.

TA-SPEC-0033 Rev A\_ Linear Baffles 3-Part Spec

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2. Extra Material for Owner's stock.
3. Safety Data Sheets (SDS).

E. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

## 1.5 QUALITY ASSURANCE

- A. Minimum 5 years of experience in manufacturing acoustical products similar in complexity of the types specified herein.
- B. Single-Source Responsibility: TECHLITE Acoustics to provide linear ceiling baffles (only).
- C. Installer Qualifications: Acceptable to the manufacturer of the acoustical products being installed. Utilize an installer having demonstrated experience on projects of similar size and complexity.
- D. Mock-Up: Provide a mock-up for evaluation of installed appearance.
  1. Install acoustical products in areas designated by proper authority.
  2. Do not proceed with remaining work until proper authority approves workmanship and appearance.
  3. Approved mock-up may remain as part of the work.
- E. Surface Burning Characteristics
  1. Tested in accordance to ASTM E84
  2. Fire Class A
    - a. Flame Spread Index  $\leq 25$
    - b. Smoke Developed Index  $\leq 50$

## 1.6 DELIVERY, STORAGE AND HANDLING

- A. Delivery: Deliver material in the manufacturer's original, unopened, undamaged containers with identification labels intact.
- B. Provide labels indicating TECHLITE Acoustics division brand name, style, size, thickness and diameter, where applicable.
- C. Storage and Protection: Comply with manufacturer's recommendations. Store acoustical product indoors and protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

## 1.7 PROJECT CONDITIONS

- A. Environmental Limitations
  1. Install linear baffles only in conditions that are within the manufacturer's published limits for temperature and humidity.
  2. Areas receiving linear baffles should be free of construction debris and dust.
  3. Mechanical, sprinkler and electrical trades shall have completed their work within the ceiling structure prior to commencement of linear baffle installation.

## 1.8 MAINTENANCE

- A. Extra Materials: Provide a minimum of 1 box or 2%, whichever is larger, of additional materials if required for use by owner or the building maintenance and repair.
- B. Provide new unopened cartons of extra materials, packaged with protective covering for storage and identified with appropriate labels.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURER

- A. TECHLITE Acoustics
  - 1. Contact: 2122 West 5<sup>th</sup> Place, Tempe, Arizona, 85281; Telephone (800) 922-5252; Email: [info@techlite.com](mailto:info@techlite.com); website: [www.techlite.com](http://www.techlite.com). Substitutions: Not permitted.
  - 2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

### 2.2 MATERIALS

- A. TECHLITE Accent Linear Ceiling Baffle: Linear Baffles are manufactured from open-cell melamine foam with the following characteristics:
  - 1. Fire Resistance: ASTM E84, Class A
  - 2. Apparent NRC: 0.80 per ASTM C423 Type J c-channel and corkscrew hanger mounting at 12 inches x 96 inches
  - 3. Foam Density: Light Grey 0.56 lbs./ft<sup>3</sup> +/- 0.09 lbs./ft<sup>3</sup>  
White 0.47lbs./ft<sup>3</sup> +/- 0.13lbs./ft<sup>3</sup>
  - 4. Service Temperature: -40 ° F to 350 ° F
  - 5. Size: Nominal: 12 inches x 96 inches. Custom sizes available.
  - 6. Manufacturers Custom Coating/Colors: Available upon request.
- B. Product Substitutions
  - 1. Not permitted
- C. Accessories
  - 1. Construction adhesive, hanger wire and mounts, eye bolts, c-channel and associated framing to be supplied by others.
  - 2. Corkscrews to be supplied by TECHLITE

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine linear ceiling baffle installation, with installer present, for compliance with requirements specified in this and other applicable Sections affecting baffle installation and with requirements for installation tolerances and other conditions affecting linear baffle from ceilings.
- B. Verify acoustical panel layout conditions, which will adversely affect installation.

- C. If layout or substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
- D. Verify wet work such as plastering and concrete is complete and dry. Verify building is enclosed and under standard occupancy conditions prior to start of installation.
- E. Commencement of installation constitutes Installer's acceptance of substrate conditions.

## 3.2 INSTALLATION

- A. Do not begin installation until materials sufficient to complete an entire room are received and prepared for installation.
- B. Fit linear baffles in place, free from damaged edges or other defects detrimental to appearance and function.
- C. Symmetrically locate baffle layout, as desired, in each space. Coordinate work with other trades so that lighting fixtures, HVAC and other ceiling mounted fixtures work with hanging baffle layout.
- D. Install materials in accordance with manufacturer's printed instructions and to comply with governing regulations, fire resistance rating requirements as indicated and industry standards applicable to the work.
- E. Install units after ceiling work is complete.
- F. Hang baffles in uniform plane, where required, and free from twist, warp, and dents.

## 3.3 CLEANING

- A. Clean exposed surfaces of linear ceiling baffles, and any installation accessories to comply with manufacturer's instructions for cleaning.
- B. Clean adjacent surfaces and remove unused materials and debris from site.
- C. Touch up any minor finish damage.
- D. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

## 3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Remove and reinstall improperly installed material.

END OF SECTION