

SECTION 09840 – ACOUSTICAL WALL TREATMENT

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes: Site-fabricated, stretched fabric acoustical wall system built with rigid polymer stretching system to secure fabric over the wall surface and core material.
- B. Related Sections:
 - 1. Division 9 Section: 09510 Acoustical Ceilings
 - 2. Division 9 Section: 09700 Wall Finishes

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 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.
- B. National Fire Protection Association (NFPA):
 - 1. NFPA 265 – Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile Coverings on Full Height Panels and Walls.

1.3 SYSTEM DESCRIPTION

- A. Design Requirements:
 - 1. Site-fabricated polymer stretching system members engineered specifically for perimeter, midwall, insider corner and outside corner room conditions. The stretching system shall create a cavity on the wall in the depth required by this specification.
 - 2. Core material shall be securely mounted to the substrate and completely fill the cavity created by the stretching system. Gaps in the core material are not acceptable.
 - 3. Fabric shall be stretched over the core material and inserted into the stretching system and be free from wrinkles or sagging. Adhesives, nails and tape should not be used to secure fabric.
 - 4. Stretching system shall be engineered to allow the removal and replacement of fabric as needed leaving adjacent panels undisturbed.
 - 5. Reveal stretching systems must be designed with a base piece and a separate “snap-in” reveal insert piece that is finished as specified by the Architect.
 - 6. Fabric wall panels manufactured off-site do not meet the intent of this specification.
- B. Performance Requirements:
 - 1. Complete stretched fabric wall system assembly shall be tested to provide surface burning characteristics as follows:
 - a. ASTM E84: Flame Spread of 0 - 25
Smoke Developed Index of 0 - 450
 - b. NFPA 265 Method B: Must pass
 - 2. Complete stretched fabric wall system assembly shall be tested by ASTM C423 Type A Mounting to provide Noise Reduction Coefficient (NRC) rating as follows:

- a. [1/2" system thickness – .55]
- b. [1" system thickness – .80]
- c. [2" system thickness – .95]
- d. [Custom as needed – NRC as needed]

1.4 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 submittal Procedures.
- B. Product Data: Submit manufacturer's product data and literature.
 1. Recommended cleaning procedures for fabric.
- C. Samples: Submit selection and verification samples as follows:
 1. 6" piece of each polymer stretching system required.
 2. 6" x 6" piece of each core material required.
 3. 8" x 10" memo sample of each fabric required.
 4. [Submit two (2) samples 12" x 12" mounted on wood substrate showing the required system characteristics.]
 5. [Construct a full scale mock up at a location designated by the Architect showing the required system characteristics.]
- D. Shop Drawings:
 1. Submit shop drawings of panel layout, system thickness, edge conditions, core configuration and fabric direction.
- E. Quality Assurance / Control Submittals: Submit the following:
 1. Test Reports: Upon request, submit certified test reports from independent, recognized testing agencies which demonstrate full compliance with required acoustical and fire protection performance characteristics.
- F. LEED Submittals:
 1. Materials
 - a. **Credit 4 Recycled Content:** The system is built on-site from three components, a textile facing material, core material and polymer track. The percentage of recycled material depends on the selection of these components. Many fabrics and core materials have different percentages of recycled content up to 100%.
 - b. **Credit 5.1 Regional Materials 20% manufactured Regionally (LEED CI Only):** All wall and ceiling systems are site-fabricated so there will be a contribution credit this credit. All three components are assembled into the final product on the job by licensed contractors.
 - c. **Credit 6 Rapidly Renewable Materials:** Because the system does not rely on the core material for the structure of our panels, a wide variety of core materials can be specified that contribute to this credit. Core materials made from cotton and fabrics made from Bio-based materials can contribute to this LEED credit.
 2. **Indoor Environmental Quality:**
 - a. **Credit 4.1 Low-Emitting Materials, Adhesives and Sealants:** All wall and ceiling systems are installed free of adhesives and sealants. Because the system is a "stretch" type, VOC's are not added to the building.
- G. Certificates:

1. Installation Company must provide documentation they are licensed and trained by the manufacturer.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Use licensed and trained installation technicians with experience installing stretched fabric wall systems on projects of similar size and complexity.
- B. All polymer stretching system members must be provided by Acoustical Solutions including all perimeter, midwall, inside and outside corner pieces.

1.6 DELIVERY, STORAGE AND HANDLING

- A. General: Abide by requirements in Division 1 Product Requirements Section.
- B. Storage and Protection:
 1. Protect system components from moisture, dust and damage during shipment.
 2. Deliver system components in unopened bundles and store in dry area with adequate air circulation.
 3. Fabric on bolts should not be stored under other material or upright on end.

1.7 PROJECT / SITE CONDITIONS

- A. Environmental Requirements:
 1. Building must be closed in and climate controlled before installation of fabric facing.
 2. Maintain constant humidity and temperature conditions using the buildings mechanical systems from 24 hours before installation through to acceptance by the Owner.
 3. Adequate lighting conditions must be provided for before installation can start.

1.8 SEQUENCING AND SCHEDULING

- A. Installation of stretched fabric wall system shall begin only after all adjoining work is complete.
- B. All wet work must be completed.

1.9 WARRANTY

- A. Provide a one year installation warranty.
- B. Provide a special manufacturer warranty up to five years against polymer stretching system and core material defects.

1.10 MAINTENANCE

- A. Extra Material: Provide [specify percentage] of extra stock for each fabric specified of same dye lot for use by owner for maintenance and repair.

PART 2 – PRODUCTS

2.1 SUPPLIER:

- A. Acoustical Solutions | 2420 Grenoble Road | Richmond, VA 23229
Phone: 804-346-8350 | E-mail: info@acousticalsolutions.com

Website: <https://acousticalsolutions.com>

B. Substitutions: [Refer to section 1], [No substitutions permitted]

2.2 MATERIALS

A. Stretched Fabric Wall System [AcoustiWall]:

1. Panel Size: As indicated on drawings.
2. Panel Thickness: As indicated on drawings.
3. Stretching System: Polymer extrusions
 - a. Perimeter edge condition:
 - i. [Bevel]
 - ii. [Radius]
 - iii. [Square]
 - iv. [Square Side-Load]
 - v. [Welted] – [Black] or [Fabric wrapped as specified by Architect.]
 - vi. [Bevel Reveal 1" width] – Finish is [Black], or [Custom as specified by Architect.]
 - vii. [Square Reveal in 1/4", 1/2", 3/4" or 1" width] – Finish is [Black] or [Custom as specified by Architect.]
 - b. Midwall edge condition:
 - i. [Bevel]
 - ii. [Radius]
 - iii. [Square]
 - iv. [Welted] – [Black] or [Fabric wrapped as specified by Architect.]
 - v. [Bevel Reveal 1" width] – Finish is [Black], or [Custom as specified by Architect.]
 - vi. [Square Reveal in 1/4", 1/2", 3/4" or 1" width] – Finish is [Black] or [Custom as specified by Architect.]
 - c. Outside Corner edge condition:
 - i. Square – [With Seam], [Fabric wrapped without seam]
4. Core Material:
 - a. Acoustical: Semi-rigid fiberglass board
 - i. Density: [6-7 P.C.F.] or [Custom or dual density as specified by Architect or Acoustical Consultant.]
 - ii. Thickness: [1/2"], [1"], [1-1/2"], [2"], or [Custom as specified by Architect or Acoustical Consultant.]
 - b. Other as specified by Architect or Acoustical Consultant.
5. Fabric: Shall be approved by the Licensed Installation Company.
 - a. [Insert manufacturer's contact information]
 - b. Style Name and Number:
 - c. Color Name and Number:
 - d. Width:

- e. Content:
- f. If needed, a liner fabric may be stretched below the specified fabric to ensure the concealment of the stretching system.

PART 3 – EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- A. Install all materials in accordance with on site regulations, performance requirements and industry standards.

3.2 EXAMINATION

A. Site Verification of Conditions:

- 1. Examine the condition of the substrate in areas where work is to be performed.
- 2. Installation to begin only after the following:
 - a. Building is closed in and climate controlled.
 - b. All related work is complete including electrical, hvac, millwork, paint, ceilings, base board and floor coverings.
- 3. Contractor is to be notified in writing of any unsatisfactory conditions.
- 4. Work will not proceed until unsatisfactory conditions have been corrected or completed in a manner satisfactory to the installer.

3.3 INSTALLATION

- A. Install materials in accordance with the manufacturer's instructions and complying with governing regulations, fire resistance rating requirements indicated and industry standards applicable to the work.
- B. Fasten the rigid polymer stretching system to the surfaces receiving the treatment. Secure with mechanical diverging stapler using 1 inch 18 gage staples spaced on 2 inch centers.
- C. Install rigid polymer stretching system plumb and straight, flush, and in proper alignment.
- D. Install the core material required, continuous and flush, to the shoulder of the stretching system and secure in place with recommended fasteners.
- E. Cut the fabric from each roll maintaining sequence of drops and matching direction of weave for sequential and uniform installation.
- F. Stretch the fabric and secure into the locking jaws of the stretching system so that it will be smooth, free of wrinkles and the weave straight and parallel to perimeter anchors, plumb, and aligned horizontally and vertically. Gluing or stapling of fabric will not be acceptable for this work.
- G. Examine fabric as it is installed for damage, imperfections, poor color match, or other deficiencies. Replace with acceptable material as directed by the Architect.

3.4 CLEANING

- A. Clean exposed surfaces of acoustical wall system, comply with manufacturer's instructions for cleaning and repair of minor finish damage. Remove and replace work which cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.
- B. Upon completion of work, remove all remaining material including trash and debris. All areas are to be left in an orderly and clean condition.

3.5 PROTECTION

- A. The Installer shall advise the Contractor of required protection for the system including temperature, humidity limitations, and dust control so the work will be without damage and deterioration at the time of acceptance by the Owner.

END OF SECTION