SECTION 09 80 00

ACOUSTIC ROOM COMPONENTS

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\*\* NOTE TO SPECIFIER \*\* Primacoustic (a division of Radial Engineering Ltd.); acoustic panels, T-bar ceiling tiles, clouds.
This section is based on the products of Primacoustic (a division of Radial Engineering Ltd.), which is located at:
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Web: <https://www.primacoustic.com>
 [ [Click Here](https://www.arcat.com/arcatcos/cos53/arc53699.html) ] for additional information.
Primacoustic is a manufacturer of acoustic materials of all types. With over 30 years' experience in studio and live sound and 15 years in acoustics, we have amassed a tremendous resource in the form of knowledge that is interspersed throughout this web site. We firmly believe that by sharing knowledge, not only will you enjoy better results from our products, you will pass along your learning to others.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Track system. (TelaScapes Fabric Track System)
		2. Acoustic wall panels. (Broadway) (Paintables) (Hercules) (Broadband Raw)
		3. Ceiling panels. (Nimbus) (Stratus Studio Clouds) (Saturna Baffles) (StratoTile) (ThunderTile)
		4. Bass traps. (Cumulus) (London) (Fulltrap) (MaxTrap)
		5. Diffusion. (FlexiFuse) (Radiator)
		6. Room kits (London 8) (London 10) (London 12) (London 16) (Clarity)
		7. Installation hardware.
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 09 51 00 - Acoustical Ceilings.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. ASTM International (ASTM):
			1. ASTM E84.
			2. Canada: CA Technical Bulletin 117-2013 Section 1.
		2. California Building Code.
			1. CAL117 California fire retardant test.
		3. Underwriters Laboratories Canada (ULc):
			1. ULc-S102-03 Class A/1.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data:
			1. Manufacturer's data sheets on each product to be used.
			2. Preparation instructions and recommendations.
			3. Storage and handling requirements and recommendations.
			4. Typical installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Verification Samples: Two representative units of each type, size, pattern, and color.
		2. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
		2. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
		3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
			1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
			2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
			3. Retain mock-up during construction as a standard for comparison with completed work.
			4. Do not alter or remove mock-up until work is completed or removal is authorized.
	1. PRE-INSTALLATION CONFERENCE
		1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
		2. Protect from damage due to weather, excessive temperature, and construction operations.
	3. PROJECT CONDITIONS
		1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
	4. WARRANTY
		1. Manufacturer's standard limited warranty unless indicated otherwise.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Primacoustic (a division of Radial Engineering Ltd.), which is located at: 1845 Kingsway Ave. Unit 1165; Port Coquitlam, BC, Canada V3C 1S9; Tel: 604-942-1001; Fax: 604-942-1010; Email: [request info (BlakeB@primacoustic.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Primacoustic+(a+division+of+Radial+Engineering+Ltd.)&coid=53699&rep=&fax=604-942-1010&message=RE:%20Spec%20Question%20(09800ptc):%20%20&mf=); Web: <https://www.primacoustic.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. TRACK SYSTEM
		1. TelaScapes Fabric Track System:
			1. Tracks accommodate heavy fabric types and Broadband Raw Acoustic Panels.
			2. Perimeter Tracks: For outside edges.

\*\* NOTE TO SPECIFIER \*\* Delete height options not required.

* + - * 1. Height: 1 inch (25 mm). Material: uPVC 100 percent recycled content.

Lengths: 96 inches (2438 mm). Cut to size if needed.

Color: White.

Color: Black.

* + - * 1. Height: 2 inch (51 mm). Material: uPVC 100 percent recycled content.

Lengths: 96 inches (2438 mm). Cut to size if needed.

Color: White.

Color: Black.

* + - * 1. Height: 2 inch (51 mm). Material: PVC 0 percent recycled content.

Lengths: 48 inches (1219 mm). Cut to size if needed.

Color: Neutral.

Color: Black.

* + - 1. Mid-Wall Tracks: For joining two sections of paneling together.
				1. Height: 1 inch (25 mm). Material: uPVC 100 percent recycled content.

Lengths: 96 inches (2438 mm). Cut to size if needed.

Color: White.

Color: Black.

* + - * 1. Height: 2 inch (51 mm). Material: PVC 0 percent recycled content.

Lengths: 48 inches (1219 mm). Cut to size if needed.

Color: Neutral.

Color: Black.

* + - 1. Fabric: A wide array of stretch fabric color options available. Guilford of Maine color selection. A printable fabric is also available.

\*\* NOTE TO SPECIFIER \*\* Delete fabric type options not required.

* + - * 1. Fabric Type: FR701. Width: 66 inches (1676 mm). Weight: 16.0 plus or minus 0.5 oz per linear yard.

Material: 100 percent post-consumer recycled polyester

* + - * 1. Fabric Type: Anchorage. Width: 66 inches (1676 mm). Weight: 15.0 plus or minus 1.0 oz per linear yard.

Material: 65 percent pre-consumer recycled polyester, 35 percent post-consumer recycled polyester.

* + - * 1. Fabric Type: Open House. Width: 56 inches (1422 mm). Weight: 13.1 plus or minus 1.0 oz per linear yard.

Material: 65 percent pre-consumer recycled polyester, 35 percent post-consumer recycled polyester.

* + - 1. Fire and Burn Performance:
				1. USA: ASTM E84-17 Class A/1.
				2. Canada: CA Technical Bulletin 117-2013 Section 1.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. ACOUSTIC WALL PANELS

\*\* NOTE TO SPECIFIER \*\* Delete paragraphs not required.

* + 1. Broadway Acoustic Panels:
			1. Scatter Blocks: 12 x 12 inch (305 x 305 mm). Beveled edge.

\*\* NOTE TO SPECIFIER \*\* Delete control columns, broadband panels, and color options not required.

* + - 1. Control Columns: 12 x 48 inch (203 x 1219 mm). 1 inch (25 mm) thick. Beveled edge.
			2. Control Columns: 12 x 48 inch (203 x 1219 mm). 2 inch (51 mm) thick. Beveled edge.
			3. Control Columns: 12 x 48 inch (203 x 1219 mm). 3 inch (76 mm) thick. Beveled edge.
			4. Control Cube: 24 x 24 inch (610 x 610 mm). 2 inch (51 mm) thick. Beveled edge.
			5. Control Cube: 24 x 24 inch (610 x 610 mm). 2 inch (51 mm) thick. Square edge.
			6. Broadband Panels: 23 x 48 inch (584 x 1219 mm). 1 inch (25 mm) thick.
				1. Edge: Beveled.
			7. Broadband Panels: 23 x 48 inch (584 x 1219 mm). 2 inch (51 mm) thick.
				1. Edge: Beveled.
			8. Broadband Panels: 23 x 48 inch (584 x 1219 mm). 2 inch (51 mm) thick.
				1. Edge: Square.
			9. Broadband Panels: 23 x 48 inch (584 x 1219 mm). 3 inch (76 mm) thick.
				1. Edge: Beveled.
			10. Broadband Panels: 23 x 48 inch (584 x 1219 mm). 3 inch (76 mm) thick.
				1. Edge: Square.
			11. Broadband Square: 48 x 48 inch (1219 x 1219 mm). 2 inch (51 mm) thick.
				1. Edge: Square.
			12. Color: Black.
			13. Color: Beige.
			14. Color: Gray.
			15. Fire and Burn Performance:
				1. Canada CAN/ULC-S102-03 Class A/1.
				2. USA ASTM E84-09 Class A/1.
			16. Core Material Density: Formed, semi-rigid inorganic glass fibers, 6.0 lbs pcf (96 kg per cu m).
			17. Fabric Facing: Acoustically transparent polyester.
			18. Backing: Glass wool tissue micromesh.
			19. Edge Treatment: Sealed and hardened with resin.
			20. Recycled Content: Up to 51 percent.
			21. LEED Eligible: Yes. Core Material Density.
		1. Paintables:

\*\* NOTE TO SPECIFIER \*\* Delete items not required.

* + - 1. Control Columns: 12 x 48 inch (203 x 1219 mm). 2 inch (51 mm) thick.
				1. Edge: Beveled.
			2. Control Cube: 24 x 24 inch (610 x 610 mm). 2 inch (51 mm) thick.
				1. Edge: Beveled.
			3. Control Cube: 24 x 24 inch (610 x 610 mm). 2 inch (51 mm) thick.
				1. Edge: Square.
			4. Broadband Panels: 23 x 48 inch (584 x 1219 mm). 1 inch (25 mm) thick.
				1. Edge: Square.
			5. Broadband Panels: 23 x 48 inch (584 x 1219 mm). 2 inch (51 mm) thick.
				1. Edge: Beveled.
			6. Broadband Panels: 23 x 48 inch (584 x 1219 mm). 2 inch (51 mm) thick.
				1. Edge: Square.
			7. Broadband Square: 48 x 48 inch (1219 x 1219 mm). 2 inch (51 mm) thick.
				1. Edge: Square.
			8. Hexagonal Element: 14 x 16 inches (356 x 406). 2 inch (51 mm) thick.
				1. Edge: Beveled.
			9. Color: Absolute white.
			10. Fire and Burn Performance:
				1. Canada CAN/ULC-S102-03 Class A/1.
				2. USA ASTM E84-09 Class A/1.
			11. Core Material Density: Formed, semi-rigid inorganic glass fibers, 6.0 lbs pcf (96 kg per cu m)
			12. Fabric Facing: Glass wool tissue micromesh sealed with water based latex paint.
			13. Backing: Sealed with acoustically transparent micromesh.
			14. Edge Treatment: Resin hardened with painted glass wool facing.
			15. Recycled Content: Up to 51 percent.
			16. LEED Eligible: Yes. Core Material Density.
		1. Hercules - Impact Resistant Panels:
			1. Control Columns: 24 x 48 inch (610 x 1219 mm). 2 inch (51 mm) thick.
				1. Edge: Square.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required.

* + - 1. Color: Beige.
			2. Color: Gray.
			3. Fire and Burn Performance: USA ASTM E84-17 Class A/1.
			4. Core Material Density: Formed, semi-rigid inorganic glass fibers, 6.0 lbs pcf (96 kg per cu m).
			5. Fabric Facing: High-density layer 20 lbs per cu ft (320 kg per cu m) with rigid acoustically transparent polyester.
			6. Backing: Glass wool tissue micromesh.
			7. Edge Treatment: Sealed and hardened with resin.
			8. Recycled Content: Up to 51 percent.
			9. LEED Eligible: Yes. Core Material Density.
		1. Broadband Raw Panel: Rigid edges makes it perfect for applying custom fabrics with adhesive spray, retaining the square edge and professional aesthetic. Can be used with Stretch Fabric System to cover larger areas in any custom shape. Offers balanced absorption at all frequencies. Tested for acoustic performance by third-party laboratories.
			1. Dimensions (WxLxT): 48 x 48 x 2 inch (1219 x 1219 x 51 mm).
			2. Core Material Density: Formed, semi-rigid inorganic glass fibers, 6.0 lbs pcf (96 kg per cu m).
			3. Fabric Facing: Raw panel with sealed micromesh.
			4. Backing: Glass wool tissue micromesh.
			5. Edge Treatment: Sealed and hardened with resin.
			6. Recycled Content: Up to 51 percent.
			7. LEED Eligible: Yes.
			8. Fire and Burn Performance: Broadway units.
				1. ASTM E 84-09. Class: 1 OR A.
				2. CAN/UL-S102. Class: 1 OR A.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. CEILING PANELS

\*\* NOTE TO SPECIFIER \*\* Delete paragraphs not required.

* + 1. Nimbus: Acoustic cloud kit to attenuate ambient noise and control low, mid, and high frequency reflections. Generally placed above an area where a reduction in sound level is desired
			1. Each Kit: Fabric covered Broadway panel, SlipNot, Helix and hardware required to attach to a ceiling.
			2. Dimensions: 24 x 48 inch (610 x 1219 mm).
			3. Panel Depth: 1.5 inch (38 mm).
			4. Core Material Density: Formed, semi-rigid inorganic glass fibers, 6.0 lbs pcf (96 kg per cu m). Weight: 8.3 lbs (3.8 kg).
			5. Facing: Acoustically transparent polyester or paintable glass wool tissue micromesh sealed with latex paint.
			6. Backing: Sealed with acoustically transparent micromesh.
			7. Edge Treatment: Sealed and hardened with resin.
			8. Recycled Content: Up to 51 percent.
			9. LEED Eligible: Yes.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: Black fabric.
			2. Color: Beige fabric.
			3. Color: Grey fabric.
			4. Color: Absolute White. Paintable finish.

\*\* NOTE TO SPECIFIER \*\* Delete fire and burn performance option not required.

* + - 1. Fire and Burn Performance: Broadway units.
				1. ASTM E84-09. Class: 1 OR A.
				2. ULC-S102. Class: 1 OR A.
			2. Fire and Burn Performance: Paintable units.
				1. ASTM E 84-11b Class: 1 OR A.
				2. CAN/UL-S102-1010. Class: 1 OR A.
		1. Stratus Studio Clouds:
			1. Acoustic cloud to be positioned above listening area to eliminate ceiling to floor standing waves, early reflections, and flutter echo. Delivers greater intimacy, a larger sweet spot and better stereo imaging.
				1. Several cloud units can be connected to form a large, continuous cloud.
			2. Frame Material: Formed 16 ga aluminum.
			3. Dimensions (WxLxD): 24 x 48 x 2 inch (610 x 1219 x 51 mm)
			4. Core Material Density: Formed, semi-rigid inorganic glass fibers, 6.0 lbs pcf (96 kg per cu m).
			5. Weight: 11.5 lbs (5.2 kg).
			6. Facing: Acoustically transparent polyester or paintable glass wool tissue micromesh sealed with latex paint.
			7. Backing: Sealed with acoustically transparent micromesh.
			8. Edge Treatment: Sealed and hardened with resin.
			9. Recycled Content: Up to 51 percent.
			10. LEED Eligible: Yes.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: Black fabric.
			2. Color: Beige fabric.
			3. Color: Grey fabric.
			4. Color: Absolute White. Paintable.
			5. Fire and Burn Performance:
				1. Fabric Wrap: Canada CAN/ULC-S102-03 Class A/1.
				2. Fabric Wrap: USA ASTM E84-09 Class A/1.
				3. Paintable: Canada CAN/ULC-S102-10 Class A/1.
				4. Paintable: USA ASTM E84-11b Class A/1.
			6. Mounting: Suspension hardware included for a four point dead-hang.
				1. Four eyelets in cross bar members, ceiling anchors, eye-hooks and SlipNot suspension cables.
				2. Extra eyelets can be used for anti-sway or safety lines.
		1. Saturna Baffles: High performance acoustic baffle suspended perpendicular to tall ceilings. Effective in large open spaces where traditional wall mounted acoustic panels do not provide enough absorption.
			1. The Saturna is made from high-density (6 pcf per 96 kg per cu m) glass wool, offering superior absorption to low cost PVC or fabric alternatives.

\*\* NOTE TO SPECIFIER \*\* Delete dimensions/product option not required.

* + - 1. Dimensions: Saturna: 24 x 48 x 1.5 inches (610 x 1219 x 38 mm).
				1. Weight: Saturna: TBA.
			2. Dimensions: Saturna LP: 12 x 48 x 1.5 inches (305 x 1219 x 38 mm).
				1. Weight: Saturna L.P.: TBA.
			3. CORE Material: Formed, semi-rigid inorganic glass fibers, 6.0 lbs pcf (96 kg per cu m).
			4. Facing: Acoustically transparent polyester or paintable glass wool tissue micromesh sealed with latex paint.
			5. Recycled Content: Up to 51 percent.
			6. LEED Eligible: Yes.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: Black fabric.
			2. Color: Beige fabric.
			3. Color: Grey fabric.
			4. Color: Absolute White. Paintable.
			5. Fire and Burn Performance:
				1. Fabric Wrap: Canada CAN/ULC-S102-03 Class A/1.
				2. Fabric Wrap: USA ASTM E84-09 Class A/1.
				3. Paintable: Canada CAN/ULC-S102-10 Class A/1.
				4. Paintable: USA ASTM E84-11b Class A/1.
			6. Mounting: Corkscrew anchors and SlipNot suspension cables included.
		1. StratoTile T-Bar Panels:
			1. Offer same absorption characteristics of Broadway panels in standard drop ceiling tile sizes and finishes.
			2. Fully encapsulated with a micromesh then covered in a bright white glass wool facing to blend with typical drop-ceiling applications. Available in two standard drop-in ceiling tile sizes, with trim and reveal edge treatments for 15/16 inch (24 mm) ceiling grids.

\*\* NOTE TO SPECIFIER \*\* Delete panel size and color options not required.

* + - 1. Panel Size: 23.75 x 23.75 inches (603 x 603 mm). 0.75 inches (19 mm) thick.
				1. Weight: 1.9 lbs (0.9 kg).
				2. Color: White. Edge: Trim.
				3. Color: White. Edge: Reveal.
				4. Color: Black. Edge: Trim.
				5. Grid Size: 2 x 2 ft (610 x 610 mm).
			2. Panel Size: 23.75 x 47.75 inches (603 x 1213 mm).
				1. Weight: 3.8 lbs (1.8 kg). Depth: 0.75 inches (19 mm).
				2. Color: Absolute White. Edge: Trim.
				3. Color: Black. Edge: Trim.
			3. Grid Size: 2 x 4 ft (610 x 1219 mm).
			4. Grid Spacing: 15/16 inch (24 mm) T24 grid.
			5. Core Material: Formed, semi-rigid inorganic glass fibers.
			6. Facing: Glass wool tissue micromesh sealed with water based latex paint.
			7. Backing: Foil.
			8. Noise Reduction Coefficient: 0.95.
			9. Light Reflectance: 0.84.
			10. Recycled Content: Up to 51 percent.
			11. LEED Eligible: Yes.
			12. Fire and Burn Performance:
				1. ASTM E 84-05. Class: 1 OR A. Flame Spread: 5 FSI. Smoke Density: 15.
				2. CAN/UL-S102. Class: 1 OR A. Flame Spread: 2 FSC1. Smoke Density: 10.
		1. ThunderTile T-Bar Panel: Ceiling panels with acoustic absorption of glass wool panels and sound-stopping of 1/2 inch (13 mm) gypsum board. Fully encapsulated with a micromesh then covered in a bright white glass wool facing to blend with typical drop-ceiling applications. Tested to meet stringent Class-1 fire ratings.
			1. Core Material: Formed, semi-rigid inorganic glass fibers, Gypsum.
			2. Backing: 1/2 inch (13 mm) gypsum board.
			3. Facing: Glass wool tissue micromesh sealed with water based latex paint.
			4. Backing: Foil.
			5. Color: Absolute White.
			6. Grid Spacing: 15/16 inch (24 mm), T24.
			7. Grid Size: 2 x 2 ft (610 x 610 mm).

\*\* NOTE TO SPECIFIER \*\* Delete panel option not required.

* + - * 1. Panel (WxLxD): 23.75 x 23.75 x 1 inch (603 x 603 x 25 mm). Edge: Trim.
				2. Panel (WxLxD): 23.75 x 23.75 x 1 inch (603 x 603 x 25 mm). Edge: Reveal.
			1. Grid Size: 2 x 4 ft (610 x 1219 mm).
				1. Panel (WxLxD): 23.75 x 47.75 x 1 inch (603 x 705 x 25 mm).
			2. Ceiling Attenuation Class: 46.
			3. Light Reflectance: 0.84.
			4. Recycled Content: Up to 51 percent.
			5. LEED Eligible: Yes.
			6. Fire and Burn Performance:
				1. ASTM E 84-05. Class: 1 OR A. Flame Spread: 5 FSI. Smoke Density: 15.
				2. CAN/UL-S102. Class: 1 OR A. Flame Spread: 2 FSC1. Smoke Density: 10.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. BASS TRAPS

\*\* NOTE TO SPECIFIER \*\* Delete paragraphs not required.

* + 1. Cumulus: Triangular broadband acoustic corner trap that absorbs sound energy from 100 Hz and up. Fits in corners where the wall and ceiling meet. When in place, creates a 12 inch (51 mm) deep cavity behind the panel that increases the bass absorption characteristics. The traps generally yield a significant reduction in the low-to-mid (100 to 200 Hz) region while leaving the architectural design of the room intact.
			1. Dimensions: 24 x 24 x 24 inch (610 x 610 x 610 mm). Triangle.
			2. Panel Depth: 2 inch (51mm).
			3. Core Material Density: Formed, semi-rigid inorganic glass fibers, 6.0 lbs pcf (96 kg per cu m).
			4. Weight: 1.65 lbs (0.75 kg).
			5. Fabric Facing: Acoustically transparent polyester.
			6. Backing: Sealed with acoustically transparent micromesh.
			7. Edge Treatment: Reverse bevel edge. Sealed and hardened with resin.
			8. Recycled Content: Up to 51 percent.
			9. LEED Eligible: Yes.
			10. Invisible Mounting: Spring-tensioned cleats and a single eye-screw.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: Black.
			2. Color: Grey.
			3. Color: Beige.
			4. Fire and Burn Performance:
				1. ASTM E 84-09. Class: 1 OR A.
				2. CAN/UL-S102. Class: 1 OR A.
		1. London Bass Trap: Two 24 x 48 inch (610 x 1219 mm) fabric wrapped, high density glass wool Broadway panels that absorb sound energy from 75 Hz and up. Corner mounted at ear-height, or stacked floor to ceiling. When installed in the room corner, a 17 inch (432 mm) deep air space is formed behind the panel. Provides significant absorption in the 100 to 200 Hz region. Mounting is achieved using corner impalers.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: Black fabric.
			2. Color: Beige fabric.
			3. Color: Grey fabric.
			4. Color: Absolute White. Paintable finish.
			5. Dimensions: 24 x 48 inch (610 x 1219 mm).
			6. Panel Depth: 2 inch (51 mm).
			7. Core Material Density: Formed, semi-rigid inorganic glass fibers, 6.0 lbs pcf (96 kg per cu m).
			8. Weight: 8.25 lbs (3.8 kg) per panel.
			9. Facing: Acoustically transparent polyester or paintable glass wool tissue micromesh sealed with latex paint.
			10. Backing: Sealed with acoustically transparent micromesh.
			11. Edge Treatment: Sealed and hardened with resin.
			12. Recycled Content: Up to 51 percent.
			13. LEED Eligible: Yes.

\*\* NOTE TO SPECIFIER \*\* Delete fire and burn performance option not required.

* + - 1. Fire and Burn Performance: Broadway units.
				1. ASTM E 84-09. Class: 1 OR A.
				2. CAN/UL-S102. Class: 1 OR A.
			2. Fire and Burn Performance: Paintable units.
				1. ASTM E 84-11b Class: 1 OR A.
				2. CAN/UL-S102-1010. Class: 1 OR A.
		1. Fulltrap: Combination broadband absorber and bass trap mounted on a wall surface to control excessive bass in a room.
			1. Combines three acoustical principles into a single device.
				1. Mid-range and upper frequencies: 3 inch (76 mm) thick front absorptive panel made from 6 lbs per cu ft high-density encapsulated glass wool is employed.
				2. Behind the acoustic panel is a diaphragmatic dense mass membrane that acts as a low frequency resonator to absorb bass below 75 Hz.
				3. Behind the membrane is an air cavity that is created by the wood composite enclosure which serves to further attenuate bass in the troublesome 100 Hz region.
			2. Construction: MDF wood composite frame. Finish: Black, melamine laminate.
			3. Installation: Requires a screwdriver.
			4. Dimensions: 24 x 48 x 8 inch (610 x 1219 x 203 mm).
			5. Panel Material: Formed, semi-rigid inorganic glass fibers, 6.0 pcf. (96 kg per cu m).
			6. Weight: 39.7 lbs (18 kg).
			7. Fabric Facing: Acoustically transparent polyester.
			8. Diaphragmatic Membrane: Loaded vinyl, 1 pcf (16 kg per cu m).
			9. Recycled Content: Up to 51 percent.
			10. LEED Eligible: Yes.
		2. MaxTrap: Combination broadband absorber and bass trap. Corner-mounted to control excessive bass in a room.
			1. Combines three acoustical principles into one device.
				1. Mid-range and upper frequencies: 3 inch (76 mm) thick front absorptive panel made from 6 lbs per cu ft high-density encapsulated glass wool is employed.
				2. Behind acoustic panel is a stretched diaphragmatic dense-mass membrane that acts as a low frequency resonator to absorb bass below 75 Hz.
				3. Behind the membrane is an air cavity created by the wood composite enclosure which serves to further attenuate bass in the troublesome 100 Hz region.
			2. Construction: MDF wood composite frame Finish: Black, melamine finish.
			3. Installation: Requires a screwdriver.
			4. Frame Material: Black melamine laminated MDF.
			5. Dimensions: 24 x 48 x 19 inches (610 x 1219 x 483 mm).
			6. Panel Material: Formed, semi-rigid inorganic glass fibers, 6.0 pcf (96 kg per cu m).
			7. Weight: 43.6 lbs (19.8 kg).
			8. Fabric Facing: Acoustically transparent polyester.
			9. Diaphragmatic Membrane: Loaded vinyl, 1 lbs per sq ft.
			10. Recycled Content: Up to 51 percent.
			11. LEED Eligible: Yes.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: Black fabric.
			2. Color: Beige fabric.
			3. Color: Grey fabric.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. DIFFUSION

\*\* NOTE TO SPECIFIER \*\* Delete paragraphs not required.

* + 1. FlexiFuser: A variable pitch diffuser and absorber, Employs a series of adjustable slats allowing a way to customize the reflective pattern. This combination of adjustable slats and absorptive panel helps to eliminate standing waves and flutter echo and is tunable to any room or listening position. Behind the slats: A full-size, 2 inch (51 mm) thick high-density glass wool panel absorbs excessive energy from 250Hz and up.
			1. Construction: MDF wood composite with black melamine finish.
			2. Installation. Requires a screwdriver.
			3. Frame Material: Black melamine laminated MDF outer and slats.
			4. Dimensions: 24 x 48 x 8 inch (610 x 1219 x 203 mm).
			5. Panel Material: Formed, semi-rigid inorganic glass fibers; 6.0 lbs pcf. (96 kg per cu m)
			6. Weight: 46.8 lbs (21.2 kg)
			7. Fabric Facing: Acoustically transparent polyester, Grey only.
			8. LEED Eligible: Yes.
		2. Radiator: Multipurpose diffuser used to break up high frequency sound energy in a variety of applications. Installs into drop-ceiling grids to act as a portal to the plenum above. Hung directly on walls using hidden keyhole mounting locations on the frame. Placed in front of windows to eliminate reflections while maintaining natural light and sight lines.
			1. Finish: Natural birch.
			2. Effective Frequency Range: 565 Hz to 2.2 KHz.
			3. Outer Frame Material: Baltic Birch Plywood with locking dovetail corner joints. 0.5 inch (13 mm) thick, Lacquered natural wood finish.
			4. Inner Cell Material: Baltic Birch plywood 0.25 inch (6 mm) thick. Lacquered natural wood finish.
			5. Outer Dimension: 23.74 x 23.74 x 3 inches (603 x 603 x 76 mm) Fits T-Bar drop ceiling grids.
			6. Cell Dimension: 2.64 x 2.64 x 3 inches (67 x 67 x 76 mm).
			7. Weight: 8.2 lbs (3.7 kg)
			8. Mounting Hardware: Woodscrews and drywall anchors included for wall mounting. Coupling hardware allows Radiator to be bolted together to create diffusion arrays. Two coupling bolts included.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. ROOM KITS

\*\* NOTE TO SPECIFIER \*\* Delete paragraphs not required.

* + 1. London 8 Room Kit: For rooms up to 100 sq ft (9.3 sq m). Can be combined with other products to treat larger spaces. Contains select Broadway panels to tackle problems such as primary reflections, flutter echo, and standing waves. Includes corresponding mounting hardware and instructions for installation.
			1. Surface Coverage: 20 sq ft (1.85 sq m).
			2. Recycled Content: Up to 51 percent.
			3. LEED Eligible: Yes.

\*\* NOTE TO SPECIFIER \*\* Delete fire and burn performance options not required.

* + - 1. Fire and Burn Performance: Broadway units.
				1. ASTM E 84-09. Class: 1 OR A.
				2. CAN/UL-S102. Class: 1 OR A.
			2. Fire and Burn Performance: Paintable units.
				1. ASTM E 84-11b Class: 1 OR A.
				2. CAN/UL-S102-1010. Class: 1 OR A.
			3. Kit Includes:
				1. Control Columns: 12 x 36 x 1.5 inches (305 x 914 x 38 mm).

Edge: Beveled. Qty: 4.

* + - * 1. Scatter Blocks: 12 x 12 x 1 inch (305 x 305 x 25 mm).

Edge: Beveled. Qty: 8.

* + - * 1. Surface Impalers: Qty: 16.

For mounting Control Columns and Scatter Blocks.

Drywall anchors and screws included.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: Black fabric.
			2. Color: Beige fabric.
			3. Color: Grey fabric.
			4. Color: Absolute White. Paintable finish.
		1. London 10 Room Kit: For rooms up to 100 sq ft (11.1 sq m). Can be combined with other products to treat larger spaces. Contains select Broadway panels to tackle problems such as primary reflections, flutter echo, and standing waves. Includes corresponding mounting hardware and instructions for installation.
			1. Surface Coverage: 44 sq ft (4.1 sq m).
			2. Recycled Content: Up to 51 percent.
			3. LEED Eligible: Yes.

\*\* NOTE TO SPECIFIER \*\* Delete fire and burn performance options not required.

* + - 1. Fire and Burn Performance: Broadway units.
				1. ASTM E 84-09. Class: 1 OR A.
				2. CAN/UL-S102. Class: 1 OR A.
			2. Fire and Burn Performance: Paintable units.
				1. ASTM E 84-11b Class: 1 OR A.
				2. CAN/UL-S102-1010. Class: 1 OR A.
			3. Kit Includes:
				1. Control Columns: 12 x 48 x 2 inch (305 x 1219 x 51 mm).

Edge: Beveled. Qty: 4.

* + - * 1. Scatter Blocks: 12 x 12 x 1 inch (305 x 305 x 25 mm).

Edge: Beveled. Qty: 12.

* + - * 1. Surface Impalers: Qty: 28.

For mounting Control Columns and Scatter Blocks.

Drywall anchors and screws included.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: Black fabric.
			2. Color: Beige fabric.
			3. Color: Grey fabric.
			4. Color: Absolute White. Paintable finish.
		1. London 12 Room Kit: For rooms up to 150 sq ft (13.9 sq m), Can be combined with other products to treat larger spaces. Contains select Broadway panels to tackle problems such as primary reflections, flutter echo, and standing waves. Includes corresponding mounting hardware and instructions for installation.
			1. Surface Coverage: 60 sq ft (5.6 sq m).
			2. Recycled Content: Up to 51 percent.
			3. LEED Eligible: Yes.

\*\* NOTE TO SPECIFIER \*\* Delete fire and burn performance options not required.

* + - 1. Fire and Burn Performance: Broadway units.
				1. ASTM E 84-09. Class: 1 OR A.
				2. CAN/UL-S102. Class: 1 OR A.
			2. Fire and Burn Performance: Paintable units.
				1. ASTM E 84-11b Class: 1 OR A.
				2. CAN/UL-S102-1010. Class: 1 OR A.
			3. Kit Includes:
				1. Broadband Panels: 24 x 24 x 2 inch (610 x 610 x 51 mm).

Edge: Beveled. Qty: 2.

* + - * 1. Control Columns: 12 x 48 x 2 inch (305 x 1219 x 51 mm).

Edge: Beveled. Qty: 8.

* + - * 1. Scatter Blocks: 12 x 12 x 1 inch (305 x 305 x 25 mm).

Edge: Beveled. Qty: 12.

* + - * 1. Surface Impalers: Qty: 28. Corner Impalers: 8.

For mounting Control Columns and Scatter Blocks.

Drywall anchors and screws included.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: Black fabric.
			2. Color: Beige fabric.
			3. Color: Grey fabric.
			4. Color: Absolute White. Paintable finish.
		1. London 16 Room Kit: For rooms up to 200 sq ft (18.6 sq m). Can be combined with other products to treat larger spaces. Contains select Broadway panels to tackle problems such as primary reflections, flutter echo, and standing waves. Includes corresponding mounting hardware and instructions for installation.
			1. Surface Coverage: 120 sq ft (11.2 sq m).
			2. Recycled Content: Up to 51 percent.
			3. LEED Eligible: Yes.

\*\* NOTE TO SPECIFIER \*\* Delete fire and burn performance options not required.

* + - 1. Fire and Burn Performance: Broadway units.
				1. ASTM E 84-09. Class: 1 OR A.
				2. CAN/UL-S102. Class: 1 OR A.
			2. Fire and Burn Performance: Paintable units.
				1. ASTM E 84-11b Class: 1 OR A.
				2. CAN/UL-S102-1010. Class: 1 OR A.
			3. Kit Includes:
				1. Broadband Panels: 24 x 24 x 2 inch (310 x 310 x 51 mm).

Edge: Beveled. Qty: 2.

* + - * 1. Control Columns: 12 x 48 x 2 inch (305 x 1219 x 51 mm).

Edge: Beveled. Qty: 8.

* + - * 1. Scatter Blocks: 12 x 12 x 1 inch (305 x 305 x 25 mm).

Edge: Beveled. Qty: 12.

* + - * 1. Surface Impalers: Qty: 28. Corner Impalers: 8.

For mounting Control Columns and Scatter Blocks.

Drywall anchors and screws included.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: Black fabric.
			2. Color: Beige fabric.
			3. Color: Grey fabric.
			4. Color: Absolute White. Paintable finish.
		1. Clarity Room Kit:
			1. To treat rooms up to 120 sq ft (11.15 sq m) and can be used in multiples to treat larger rooms for a variety of purposes.
			2. Paintable Panels: High-density fiberglass, offering five times greater absorption than many foam alternatives.
			3. Coated with Absolute White breathable latex. May be painted any color. Printable using commercial flatbed UV printers.
			4. Surface Coverage: 42 sq ft (4 sq m).
			5. Recycled Content: Up to 51 percent.
			6. LEED Eligible: Yes.
			7. Color: Absolute White. Paintable finish.
			8. Fire and Burn Performance: Paintable units.
				1. ASTM E 84-11b Class: 1 OR A.
				2. CAN/UL-S102-1010. Class: 1 OR A.
			9. Kit Includes:
				1. Control Columns: 12 x 48 x 2 inch (305 x 1219 x 51 mm).

Edge: Beveled. Qty: 6.

* + - * 1. Control Cubes: 24 x 24 x 2 inch (610 x 610 x 51 mm).

Edge: Beveled. Qty: 6.

* + - * 1. Surface Impalers: Qty: 36.

For mounting Control Columns and Scatter Blocks.

Drywall anchors and screws included.

* 1. INSTALLATION HARDWARE

\*\* NOTE TO SPECIFIER \*\* Delete hardware options not required.

* + 1. Push-On Impaler: To mount Broadway glass wool panels onto walls. Allow installer to push panels straight onto Impaler clips. Impaler feature sharp protruding darts that penetrate the panel and secure it in place.
			1. Construction adhesive is usually at center of Impaler during mounting.
			2. Impalers are mounted using sheetrock anchors and screws.
			3. Dimensions: 3 x 4 inch (76 x 102 mm).
			4. Material 20 gauge galvanized steel.
			5. Attachment Points: 2. Use appropriate fastener for wall surface.
			6. Load Limit: 12 lbs (5.4 kg); dependent on wall fastener.
		2. Surface Impaler: To mount Broadway glass wool panels onto walls. Allow installer to pull panel down onto Impaler clip while allowing for some levelling adjustability after the panel is installed. Impaler features four sharp darts that penetrate the panel and secure it in place.
			1. Construction adhesive is usually at center of Impaler during mounting.
			2. Impalers are mounted using sheetrock anchors and screws.
			3. Dimensions: 3 x 4 inch (76 x 102 mm).
			4. Material 20 gauge galvanized steel.
			5. Attachment Points: 2. Use appropriate fastener for wall surface.
			6. Load Limit: 12 lbs. (5.4 kg.); dependent on wall fastener.
		3. Offset Impaler: To mount Broadway glass wool acoustic panels onto wall surfaces while creating an air cavity behind the panel to increase bass absorption.
			1. U-shaped design that holds the panel from the wall surface by 3.5 inches (89 mm) making it easy to align with typical 2 x 4 inch (51 x 102 mm) studs.
			2. Panels held in place using a series of sharp protruding darts that penetrate the panel to secure it during installation.
			3. Construction adhesive is usually at center of Impaler during mounting.
			4. Impalers are mounted using sheetrock anchors and screws.
			5. Material: 20 gauge galvanized steel
			6. Dimensions: 3 x 5 inch (76 x 127 mm).
				1. Offset: 3.5 inch (89 mm) from wall surface.
			7. Attachment Points: 4. Use appropriate fastener for wall surface.
			8. Load Limit: 12 lbs (5.4 kg); dependent on wall fastener.
		4. Corner Impaler: To mount Broadway glass wool acoustic panels into corners to create bass traps. Features a 45 degree angle design that positions a panel across a typical 90 degree corner without causing serious defacement of the wall surface.
			1. Panel are held in place using a series of sharp protruding darts that penetrate the panel to secure it during installation.
			2. To ensure panels do not get dislodged after installation, a dab of construction adhesive may be applied to the impaler darts during the mounting process adding a higher level of security and reducing opportunity for tampering. Impalers are installed using typical sheetrock anchors and screws.
			3. Construction adhesive is usually at center of Impaler during mounting.
			4. Impalers are mounted using sheetrock anchors and screws.
			5. Material: 20 gauge galvanized steel.
			6. Dimensions: 3 x 5 inch (76 x 127 mm).
				1. Corner: 45 degree angle for 90 degree corners.
			7. Attachment Points: 4. Use appropriate fastener for wall surface.
			8. Load Limit: 12 lbs (5.4 kg); dependent on wall fastener.
		5. Corkscrew: A tensioned steel screw that twists into the edge of a panel for placement overhead. Combining Corkscrew with the SlipNot enables the panel to be quickly adjusted to achieve a uniform height.
			1. Material: Steel.
			2. Load Limit: 45 lbs (20.4 kg) per anchor.
		6. Helix: A solid zinc die-cast device that integrates an eye hole and a wide screw that create a reliable and sturdy anchor for hanging any panels as an acoustic cloud using the adjustable SlipNot suspension system.
			1. Material: Plastic.
			2. Load Limit: 45 lbs. (20.4 kg.) per anchor.
		7. SlipNot: A 76 inch (1930 mm) suspension cable system. Aircraft steel rope with cam-style releasable hook for height adjustment at one end and an eye-sling at the other.
			1. Attach sling to a suspension point and clip the hook onto panel using the Corkscrew or Helix panel mounting screws.
			2. Material: Steel.
			3. Load Limit: 45 lbs. (20.4 kg.) per anchor.
			4. Cable Length: 76 inch (193 cm).
		8. Rotofast Cloud Anchor: Twist Anchors into the back of any 2 to 3 inch thick Broadway panel for a strong and secure installation. The integrated eye-screw allows overhead suspension by tie-wire or chain.
			1. Material: Plastic and steel.
			2. Load Limit 45 lbs. (20.4 kg.) per anchor.
		9. Rotofast Snap-On Anchor: Locks panel onto any flat surface where panels need to be mounted securely. Twist anchor into panel and attach corresponding locking pins to the wall or ceiling. The panel clicks and locks onto pins.
			1. Material: Plastic and steel.
			2. Load Limits: 45 lbs. (20.4 kg.) per anchor.
		10. PrimaBlock: Loaded vinyl barrier. Flexible, 1 lb per sq ft (4.9 m per sq kg) mass loaded vinyl used in construction to reduce sound transmission through walls, floors, and ceilings.
			1. Manufactured without the use of hazardous lead or heavy metals.
			2. Color: Black.
			3. Weight: 1 lb per sq ft (4.9 m per sq kg).
			4. Dimensions: Roll Length: 30 ft (9 m). Roll Width: 4.5 ft (1.4 m). Surface Area: 135 sq ft (12.5 sq m).
			5. Tear Strength: 70 lb per inch (12.5 kg per cm).
			6. Tensile Strength: 400 psi (2720 kPa).
			7. Thickness: 0.100 inches (2.54 mm).
			8. Flammability: SE "0" in per min.
			9. Temperature Range: Minus 40 to 180 degrees F (Minus 40 to 82 degrees C).
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until substrates have been properly constructed and prepared.
		2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
	2. PREPARATION
		1. Clean surfaces thoroughly prior to installation.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
	3. INSTALLATION
		1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
	4. FIELD QUALITY CONTROL
		1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection, or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
	1. CLEANING AND PROTECTION
		1. Clean products in accordance with the manufacturers recommendations.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION