**Price Linear Bar Grille**

**Division 23 – Heating, Ventilating, and Air Conditioning**

**Section 23 37 13 – Diffusers, Registers, and Grilles**

The following specification is for a defined application. Price would be pleased to assist in developing a specification for your specific need.

**PART 1 – GENERAL**

* 1. **Section includes**:
1. Linear Bar Grille.
	1. **Related Requirements**
2. Section 01 30 00 – Administrative Requirements
3. Section 01 40 00 – Quality Requirements
4. Section 01 60 00 – Product Requirements
5. Section 01 74 21 – Construction/Demolition Waste Management and Disposal
6. Section 01 78 00 – Closeout Submittals
7. Section 01 79 00 – Demonstration and Training
	1. **Reference Standards**
8. All referenced standards and recommended practices in this section pertain to the most recent publication thereof, including all addenda and errata.
9. ASHRAE 55 – Thermal Environmental Conditions for Human Occupancy.
10. ASHRAE 70 – Method of Testing the Performance of Air Outlets and Air Inlets.
11. ASTM D610 – Standard Practice for Evaluating Degree of Rusting on Painted Steel Surfaces.
12. ASTM D714 – Standard Test Method for Evaluating Degree of Blistering of Paints.
13. ASTM D1308 – Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes.
14. ASTM D4752 – Standard Practice for Measuring MEK Resistance of Ethyl Silicate (Inorganic) Zinc-Rich Primers by Solvent Rub.
15. NFPA 90A – Standard for the Installation of Air-Conditioning and Ventilating Systems.

**1.04 Submittals**

1. See Section 01 30 00 – Administrative Requirements for submittal procedures.
2. Product Data: Provide data indicating configuration, general assembly, and materials used in fabrication. Include catalog performance ratings that indicate air flow, and NC designation.
3. Shop Drawings: Indicate configuration, general assembly, and materials used in fabrication.
4. Project Record Documents: Record actual locations of units and control components.
5. Operation and Maintenance Data: Include manufacturer's descriptive literature, operating instructions (if applicable), and maintenance and repair data.
6. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.
7. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.

**1.06 Quality Assurance**

1. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum ten years of documented experience.

**1.07 Warranty**

1. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
2. Provide 12 month manufacturer warranty from date of shipment of grilles and registers.

**PART 2 – PRODUCTS**

**2.01 Linear Bar Grilles**

1. Basis of Design: Price Industries, Inc.
2. Linear Bar Grille: Model LBP
3. Heavy-Duty Linear Bar Grille: Model LBPH
4. Mandrel Tube Linear Bar Grille: Model LBMH

**2.02 Linear Bar Grille**

1. Description:
	1. Furnish and install Price Model LBP linear bar grilles of sizes and mounting types indicated on the plans and air distribution schedule.
2. Construction:
	1. The grilles shall have fixed [0], [15], or [30] degree deflection blades spaced [1/4 inch], [1/2 inch], or [7/16 inch] on center. The blades shall run parallel to the long dimension of the grille.
	2. The grille blades, border, and mullions material shall be heavy extruded aluminum construction.
	3. Units wider than 18 inches shall be supplied in multiple sections with mounting channels. The maximum section length shall be 72 inches.
	4. The core shall be supplied with [3/32 inch], [1/8 inch, or [3/16] inch bars.
3. Paint Specification:
	1. The grille finish shall be (**select one**):
		1. All components shall have a baked-on powder coat finish.
			1. The paint finish must demonstrate no degradation when tested in accordance with ASTM D1308 (covered and spot immersion) and ASTM D4752 (MEK double rub) paint durability tests.
			2. The paint film thickness shall be a minimum of 2.0 mils.
			3. The finish shall have a hardness of 2H.
			4. The finish shall withstand a minimum salt spray exposure of 1000 hours with no measurable creep in accordance with ASTM D1654, and 1000 hours of exposure with no rusting or blistering as per ASTM D610 and ASTM D714.
			5. The finish shall have an impact resistance of 80 inch-pounds.
		2. The frame shall have a brushed finish and clear-coated, and the core bars shall be clear-coated only.
		3. Raw aluminum.
		4. Prepared aluminum with cleaned factory mill finish.
		5. Factory anodized by the manufacturer in the color specified in the plans.
4. Options:
	1. End Conditions:
		1. The grille shall be supplied with the following end conditions (select one):
			1. Both ends mitred (XX).
			2. One end mitred, one end open (XY).
			3. Both ends open (YY).
	2. Opposed Blade Damper:
		1. The grille shall be supplied with an opposed blade damper and shall be operable from the grille face.
		2. [Optional]: The damper shall be coated heavy duty 18 gauge cold rolled steel construction, and shall be supplied with a face accessible screw type blade locking mechanism.
	3. Border Style:
		1. The grille shall be suitable for surface mounting (not acceptable for floor mounting), complete with a border in the following style (**select one**):
			1. Core only.
			2. 1/2 inch border.
			3. 1/2 inch border with mounting frame and spring clip fastening.
			4. 3/4 inch border.
			5. 3/4 inch border with mounting frame.
			6. 1 inch border.
			7. 1 inch border with mounting frame.
			8. 1-1/4 inch border.
			9. 1-1/4 inch border with mounting frame.
	4. Fastening:
5. The grille shall be supplied with the following fastening method (**select one**):
	1. Countersunk screw holes with factory-supplied screws.
	2. Concealed fastening.
	3. Spring clip.
	4. Concealed mounting.
	5. No screw holes.
	6. Access Core:
		1. The grille shall be supplied with an access core on the [left] or [right] end of the grille.
	7. Mitered Corner Module:
		1. The grille shall be supplied with a mitered corner module fixed at [90] or [135] degrees.
	8. Sidewall Mitered Corner:
		1. The grille shall be supplied with a sidewall type mitered corner for an [inside] or [outside] corner installation.

**2.03 Heavy-Duty Linear Bar Grille**

1. Description:
	1. Furnish and install Price Model LBPH heavy duty linear bar grilles of sizes and mounting types indicated on the plans and air distribution schedule.
2. Construction:
	1. The grilles shall have fixed [0], [15], or [30] degree deflection blades spaced [1/4 inch], or [7/16 inch] on center. The blades shall run parallel to the long dimension of the grille.
	2. The grille blades, border, and mullions material shall be heavy extruded aluminum construction.
	3. Units wider than 24 inches shall be supplied in multiple sections with mounting channels. The maximum section length shall be 72 inches. Units wider than 12 inches are not recommended for floor applications.
	4. The core shall be supplied with [3/32 inch], [1/8 inch], or [3/16] inch bars.
3. Paint Specification:
	1. The grille finish shall be (**select one**):
		1. All components shall have a baked-on powder coat finish.
			1. The paint finish must demonstrate no degradation when tested in accordance with ASTM D1308 (covered and spot immersion) and ASTM D4752 (MEK double rub) paint durability tests.
			2. The paint film thickness shall be a minimum of 2.0 mils.
			3. The finish shall have a hardness of 2H.
			4. The finish shall withstand a minimum salt spray exposure of 1000 hours with no measurable creep in accordance with ASTM D1654, and 1000 hours of exposure with no rusting or blistering as per ASTM D610 and ASTM D714.
			5. The finish shall have an impact resistance of 80 inch-pounds.
		2. The frame shall have a brushed finish and clear-coated, and the core bars shall be clear-coated only.
		3. Raw aluminum.
		4. Prepared aluminum with cleaned factory mill finish.
		5. Factory anodized by the manufacturer in the color specified in the plans.
4. Options:
	1. End Conditions:
		1. The grille shall be supplied with the following end conditions (select one):
			1. Both ends mitered (XX).
			2. One end mitered, one end open (XY).
			3. Both ends open (YY).
	2. Damper:
		1. The grille shall be supplied with (**select one**):
			1. A blade type damper with face-accessible operated screw driver type operator.
			2. An opposed blade damper.
			3. The damper shall be operable from the grille face.
			4. [Optional]: The damper shall be coated heavy duty 18 gauge cold rolled steel construction, and shall be supplied with a face accessible screw type blade locking mechanism.
	3. Border Style:
		1. The grille shall be suitable for [sill], [sidewall], or [floor] mounting complete with a border in the following style (**select one**):
			1. Core only.
			2. 1/8 inch border.
			3. 3/16 inch border.
			4. 3/4 inch border.
			5. 1 inch border.
			6. 1 inch border with square edge.
			7. 1-1/4 inch border.
	4. Fastening:
5. The grille shall be supplied with the following fastening method (**select one**):
6. Countersunk screw holes with factory-supplied screws.
7. Concealed fastening.
8. Spring Clip.
9. Concealed mounting.
10. No screw holes.
	1. Access Core:
		1. The grille shall be supplied with an access core on the [left] or [right] end of the grille.
	2. Mitered Corner Module:
		1. The grille shall be supplied with a mitered corner module fixed at [90] or [135] degrees.
	3. Sidewall Mitered Corner:
		1. The grille shall be supplied with a sidewall type mitered corner for an [inside] or [outside] corner installation.

**2.04 Mandrel Tube Linear Bar Grille**

1. Description:
	1. Furnish and install Price Model LBP linear bar grilles of sizes and mounting types indicated on the plans and air distribution schedule.
2. Construction:
	1. The grilles shall have fixed [0], [15], or [30] degree deflection blades spaced [1/4 inch], [1/2 inch], or [7/16 inch] on center. The blades shall run parallel to the long dimension of the grille.
	2. The grille blades, border, and mullions material shall be heavy extruded aluminum construction.
	3. Units wider than 18 inches shall be supplied in multiple sections with mounting channels. The maximum section length shall be 72 inches.
	4. The core shall be supplied with [3/32 inch], [1/8 inch, or [3/16] inch bars.
3. Paint Specification:
	1. The grille finish shall be (**select one**):
		1. All components shall have a baked-on powder coat finish.
			1. The paint finish must demonstrate no degradation when tested in accordance with ASTM D1308 (covered and spot immersion) and ASTM D4752 (MEK double rub) paint durability tests.
			2. The paint film thickness shall be a minimum of 2.0 mils.
			3. The finish shall have a hardness of 2H.
			4. The finish shall withstand a minimum salt spray exposure of 1000 hours with no measurable creep in accordance with ASTM D1654, and 1000 hours of exposure with no rusting or blistering as per ASTM D610 and ASTM D714.
			5. The finish shall have an impact resistance of 80 inch-pounds.
		2. The frame shall have a brushed finish and clear-coated, and the core bars shall be clear-coated only.
		3. Raw aluminum.
		4. Prepared aluminum with cleaned factory mill finish.
		5. Factory anodized by the manufacturer in the color specified in the plans.
4. Options:
	1. End Conditions:
		1. The grille shall be supplied with the following end conditions (select one):
			1. Both ends mitred (XX).
			2. One end mitred, one end open (XY).
			3. Both ends open (YY).
	2. Opposed Blade Damper:
		1. The grille shall be supplied with [a coated steel (D)] or [an aluminum with mill finish (DAL)] opposed blade damper.
		2. The damper shall be operable from the grille face.
		3. [Optional]: The damper shall be coated heavy duty 18 gauge cold rolled steel construction, and shall be supplied with a face accessible screw type blade locking mechanism.
	3. Border Style:
		1. The grille shall be suitable for surface mounting (not acceptable for floor mounting), complete with a border in the following style (**select one**):
			1. Core only.
			2. 1/2 inch border.
			3. 1/2 inch border with mounting frame and spring clip fastening.
			4. 3/4 inch border.
			5. 3/4 inch border with mounting frame.
			6. 1 inch border.
			7. 1 inch border with mounting frame.
			8. 1-1/4 inch border.
			9. 1-1/4 inch border with mounting frame.
	4. Fastening:
5. The grille shall be supplied with the following fastening method (**select one**):
6. Countersunk screw holes with factory-supplied screws.
7. Concealed fastening.
8. Spring Clip.
9. Concealed mounting.
10. No screw holes.
	1. Access Core:
		1. The grille shall be supplied with an access core on the [left] or [right] end of the grille.
	2. Mitered Corner Module:
		1. The grille shall be supplied with a mitered corner module fixed at [90] or [135] degrees.
	3. Sidewall Mitered Corner:
		1. The grille shall be supplied with a sidewall type mitered corner for an [inside] or [outside] corner installation.

**PART 3 – EXECUTION**

**3.01 Examination**

1. Verify that conditions are suitable for installation.
2. Verify that field measurements are as shown on the drawings.

**3.02 Installation**

1. Install in accordance with manufacturer’s instructions.
2. See drawings for the size(s) and locations of grilles and registers.

**3.03 Field Quality Control**

1. See Section 01 40 00 – Quality Requirements for additional requirements.

**3.05 Cleaning**

1. See Section 01 74 19 – Construction Waste Management and Disposal for additional requirements.

**3.06 Closeout Activities**

1. See Section 01 78 00 – Closeout Submittals for closeout documentation requirements.
2. See Section 01 79 00 – Demonstration and Training for additional requirements.