SOUND FIGHTER® SYSTEMS

LSE Absorptive Noise Barrier

Product Specifications

The sound barrier panels covered by this specification shall be manufactured and installed having an acoustically perforated absorptive surface with the absorptive side facing the primary noise source.

The barrier shall be designed in accordance with the requirements of the latest edition of the AASHTO Guide specification for the structural design for sound barriers.

The sound barrier wall system shall be a modular design that is resistant to water/moisture, non-corrosive, non-conductive, lightweight, and be made in any color to match customer requirements.

Panels

The panels shall be produced by injection molding to form an encasement or box type unit. The molding material is a high-density polyethylene with antioxidant additives, UV stabilizers, color dyed from certified raw material.

Longitudinally arranged channel sections on the bottom of the panel to form a tongue and groove interlock joint when stacked. The interior base plate is sloped and has weep holes for drainage. Internal ribs are provided for ventilation and to hold the acoustic filler materials in place.

Each panel is furnished with a fluted sheet pile configuration, solid faced on one side and with a 23% open perforated area on the opposite side. Both sides may be perforated for special applications.

End connections shall be a tongue and groove design with overlapping contacts to assemble with vertical columns of standard W4 x 13 beams. No screws or bolts are needed to install the panels to structural steel columns.

When panels are completely packed with acoustic materials, they shall not weight more than 5 pounds per square foot. The LSE 1000 total panel weight is 11.75 pounds. The LSE 2000 total panel weight is 23.25 pounds. The square area for the LSE 1000 and 2000 panels is 2.50 and 5.00 Sq. Ft. respectively.

Acoustical Fill

Internal absorptive fill material shall be 6.0 pounds per cubic foot density mineral acoustic fiber packed under not less than 5% compression to eliminate voids. It shall be moisture and corrosive resistant, vermin proof, non-combustible, smokeless, and odorless. The mineral fiber fits into the panel cavity against the perforated face.
The internal acoustic barrier or septum shall be a 0.5-inch thick asphalt core impregnated sheathing board or a cement type board of the same thickness and attaches against the back face of the panel.

Physical Dimensions

	LSE 1000	LSE 2000
Length	38.75”	73.00”
Width	6.00”	6.00”
Height	10.50”	10.50”
Stack Height	9.87”	9.87”
Area	2.5sf	5.0sf
Weight/SF	5.0lbs.	5.0lbs.
Panel Weight	11.75 lbs.	23.25 lbs.

Structural Design

All structural steel design, fabrication and erection shall conform to the latest edition of the AISC manual of steel construction, "Allowable Stress Design".

Steel for wide flange shapes and built-up column members shall conform to ASTM A572 Grade 50 or ASTM A992. All other structural steel base plates and braces shall conform to ASTM A36.

All anchor bolts shall conform to ASTM A36 galvanized unless noted. The anchor bolt length will depend on the type of anchor used.

All welding shall conform to American Welding Society D1.1 and Electrodes shall be E70XX.

All fabricated steel members are to be hot dip galvanized after fabrication per ASTM A123 unless otherwise noted.

Steel columns shall be spaced to accommodate the panel length, and not to exceed 1" greater than the panel length. The LSE 1000 shall have a W4 x 13 support column center distance of 39 ½", and the LSE 2000 shall have a W4 x 13 support column center distance of 74".

All support steel and foundations shall be designed to meet the wind load requirements, wall height and soil conditions for each specific wall project and location. Soil conditions and footing design will vary depending on location of wall system. Each wall project will be uniquely designed because of this.

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