

12-INCH HORIZONTAL COMPOSITE FENCING PANEL

1. SCOPE

This specification covers the minimum material, mechanical, and noise reduction performance requirements of the Carsonite AcoustaShield sound barrier system which utilizes 12-inch horizontal composite panels.

This sound-barrier wall product may be used in conjunction with fiberglass, steel, concrete, or wood support posts to provide a noise-mitigation barrier along or adjacent to transportation corridors, commercial properties, industrial facilities, or construction sites. The product is also well suited for other sound-barrier applications requiring architectural appeal, long-term outdoor durability, vandal resistance, and ease of construction.

2. GENERAL REQUIREMENTS

2.1 DESIGN

The Carsonite sound barrier system consists of horizontally oriented, stacked, tongue-and-groove structural panels. The panels shall be comprised of a glass-reinforced, thermoset composite structural shell meeting the dimensions in Figure 1.

2.2 MATERIAL

The structural panel components of the Carsonite AcoustaShield sound barrier wall shall be constructed of a durable, UV-resistant, continuous glass-fiber-reinforced, flame-retardant, thermosetting composite material which is also resistant to degradation from ozone, hydrocarbons, and freeze/thaw cycling.

2.3 WORKMANSHIP

The sound barrier shall exhibit good workmanship and shall be free of burns, discolorations, cracks, or other objectionable marks that would adversely affect the barrier's performance or serviceability.

3. PHYSICAL AND MECHANICAL REQUIREMENTS

3.1 DIMENSIONS

3.1.1 Span

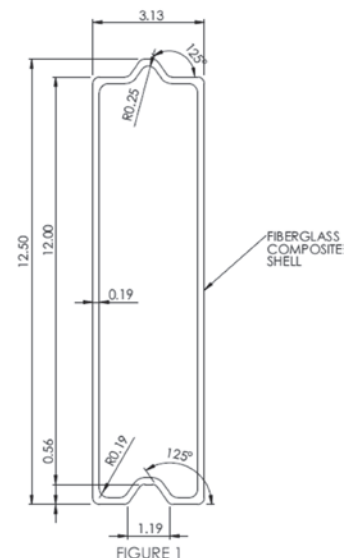
The maximum span of individual sound barrier panels shall be twenty-four feet. The wall span must be specified on each order.

3.1.2 Height

The tongue-and-groove sound-barrier panel shall be available at twelve-inch height increments.

3.1.3 Thickness

The sound-barrier panel shall have an overall thickness, measured on the panel ends, of 3.125" maximum.



3.1.4 Weight

The sound barrier wall shall have a minimum weight of 4.2 lbs. per square foot and a maximum weight of 4.4 lbs. per square foot.

3.2 MECHANICAL PROPERTIES

The structural panel component of the sound barrier wall shall have average mechanical properties as follows:

PROPERTY	ASTM TEST METHOD	MINIMUM VALUE
Flexural Modulus	D-790-10	4,140,000 psi
Flexural Strength	D-790-10	103,000 psi
Tensile Strength	D-638-10	94,710 psi
Tensile Modulus	D-638-10	5,520,000 psi
Elongation Percentage	D-638-10	1.76
Compressive Strength	D-695-10	81,400 psi
Barcol Hardness	D-22583	50
Specific Gravity	D-792-13	1.98

Test reports available upon request.

3.3 COLOR

The customer shall specify the color. Colors shall be in accordance with Federal Standard 595B or RAL color standards. The sound barrier shall be coated with a UV-resistant polymer.

3.4 TEMPERATURE RESISTANCE

When assembled and loaded in a configuration similar to a vertical wall installation, the sound barrier shall not exhibit any cracking, deformation or separation when cycled from a temperature of -40°F to +140°F and back again.

3.4.1 Flame Resistance

The structural reinforced composite panel shall have a maximum flame spread index of 25 when tested in accordance with ASTM E84.

3.5 ACOUSTICAL PROPERTIES

3.5.1 S.T.C. Rating - Sound Blockage ASTM E90, C423 and E795

Wall Type	STC Rating
Unfilled	35

3.5.2 N.R.C. Rating - Sound Absorption ASTM C423 and E795

Wall Type	NRC Rating
Unfilled	.05