

CARSONITE PRODUCT SPECIFICATION FOR COMPOSITE SIGN SUPPORT (CSS-375)

1 SCOPE

This specification covers the minimum material, mechanical and performance requirements of Carsonite's continuous glass fiber reinforced CSS-375 Composite Sign Support. This product is intended for use as a marker and support post in sign applications requiring assured long-term outdoor durability, vandal resistance and easy installation.

2 GENERAL REQUIREMENTS

2.1 DESIGN

The CSS-375 Sign Support shall be a single piece Sign Support capable of simple, permanent installation by one person using a manual driving tool. The CSS-375 upon proper installation shall resist displacement from wind and minor vehicle impact forces. The CSS-375 shall be of a constant flat "I-Beam" cross section with a reinforcing support rib incorporated longitudinally along the centerline on the back of the Sign Support. The front of the post shall be recessed between the outside rails to protect any sheeting on that surface. The bottom end of the Sign Support post shall be pointed for ease of ground penetration.

2.2 MATERIAL

The CSS-375 Sign Support shall be constructed of a durable, UV resistant, continuous glass fiber, thermosetting composite material which is resistant to impact, ozone, and hydrocarbons within a service temperature range of -40°F to +140°F.

2.3 WORKMANSHIP

The CSS-375 Sign Support shall exhibit good workmanship and shall be free of burns, discoloration, cracks, bulges or other objectionable marks which would adversely affect the marker's performance or serviceability.

2.4 MARKING

Each CSS-375 shall be permanently identified with the manufacturer's name and the month and year of fabrication.

The letters shall be a minimum of 3/8-inch in height, and permanently affixed to the rear of the marker. A black line shall be stamped horizontally across the front of the marker near the bottom to indicate proper burial depth.

3 PHYSICAL AND MECHANICAL REQUIREMENTS

3.1 DIMENSIONS

The CSS-375 Sign Support shall conform to the shape and overall dimensions shown in Figure 1.

3.1.1 Width

The nominal CSS-375 Sign Support width shall be 3.75 inches in order to accommodate a three-inch wide piece of sheeting and provide adequate support for attached signs.

3.1.2 Length

The CSS-375 shall be of such length to provide the required height above the ground with a minimum embedment depth of 18 inches.

3.2 MECHANICAL PROPERTIES

The CSS-375 shall have the minimum mechanical properties as follows:

<u>PROPERTY</u>	<u>ASTM TEST METHOD</u>	<u>MINIMUM VALUE</u>
Ultimate Tensile Strength	D-638	50,000 psi
Ultimate Compressive Strength	D-638	45,000 psi
Specific Gravity	D-792	1.7
Weight % Glass Reinforcement	D-2584	50%
Barcol Hardness	D-2583	47

3.3 COLOR FASTNESS

The CSS-375 shall be pigmented throughout the entire cross-section so as to produce a uniform color, which is an integral part of the material. Ultraviolet resistant materials shall be incorporated in the construction to inhibit fading or cracking of the delineator upon field exposure.

3.4 DEFLECTION

Deflection tests shall consist of a two-pound load suspended from one end of the CSS-375 while the other end is clamped to a support in cantilevered fashion, Horizontally, the distance from the fulcrum to the weight shall be 48 inches. The maximum allowable free end deflection shall be six inches.

3.5 TEMPERATURE RESISTANCE

3.5.1 Hot Resistance/Flexibility

A four foot CSS-375 Sign Support shall be conditioned for a minimum of two hours at $140^{\circ}\text{F} \pm 3^{\circ}\text{F}$. The unit shall then be held at the bottom end in a vertical position and the top end bent 90° such that it parallels the floor. The marker shall return to within 5° of the upright position within 30 seconds. The bend test shall be repeated three times in quick succession, completing the test within 2.5 minutes of post removal from the conditioning temperature.

3.5.2 Cold Resistance/Flexibility

A four foot CSS-375 Sign Support shall be conditioned for a minimum of two hours at $-40^{\circ}\text{F} \pm 3^{\circ}\text{F}$. The unit shall then be held at the bottom end in a vertical position and the top end bent 90° such that it parallels the floor. The Sign Support shall return to within 5° of the upright position within 30 seconds. The bend test shall be repeated three times in quick succession, completing the test within 2.5 minutes of post removal from the conditioning temperature.

3.5.3 Cold Impact Resistance

The CSS-375 shall be conditioned a minimum of two hours at $-40^{\circ}\text{F} \pm 3^{\circ}\text{F}$. A minimum two-pound spherical weight shall be dropped a distance of five feet through a virtually frictionless vertical guide to impact the surface of the Sign Support at mid section. The surface of the post being struck by the steel ball shall be in a horizontal position with the post supported and held in position at both ends. The post shall be subjected to five impact tests concentrated near the middle of the post within 10 minutes from the removal from the environmental chamber. Fracturing, cracking, or splitting of the posts shall constitute failure.

Another Sign Support shall be struck flush against a flat solid surface three times within two minutes after removal from the conditioning chamber. To strike the marker it should be manually swung through a 90° arc, and the marker shall not fracture or shatter upon impact.

4 **SIGNS**

4.1 **ACCEPTABLE SIGNS**

The CSS-375 Sign Support may be used with lightweight signs up to 18" x 24" or 12" x 36" in outside dimensions in average wind exposure conditions.

4.2 **SIGN MOUNTING**

The CSS-375 shall be supplied with pre-drilled holes, as required by the customer, for use in riveting or bolting signs to the post. Posts supplied without pre-drilled holes shall be capable of being drilled in the field with conventional equipment.

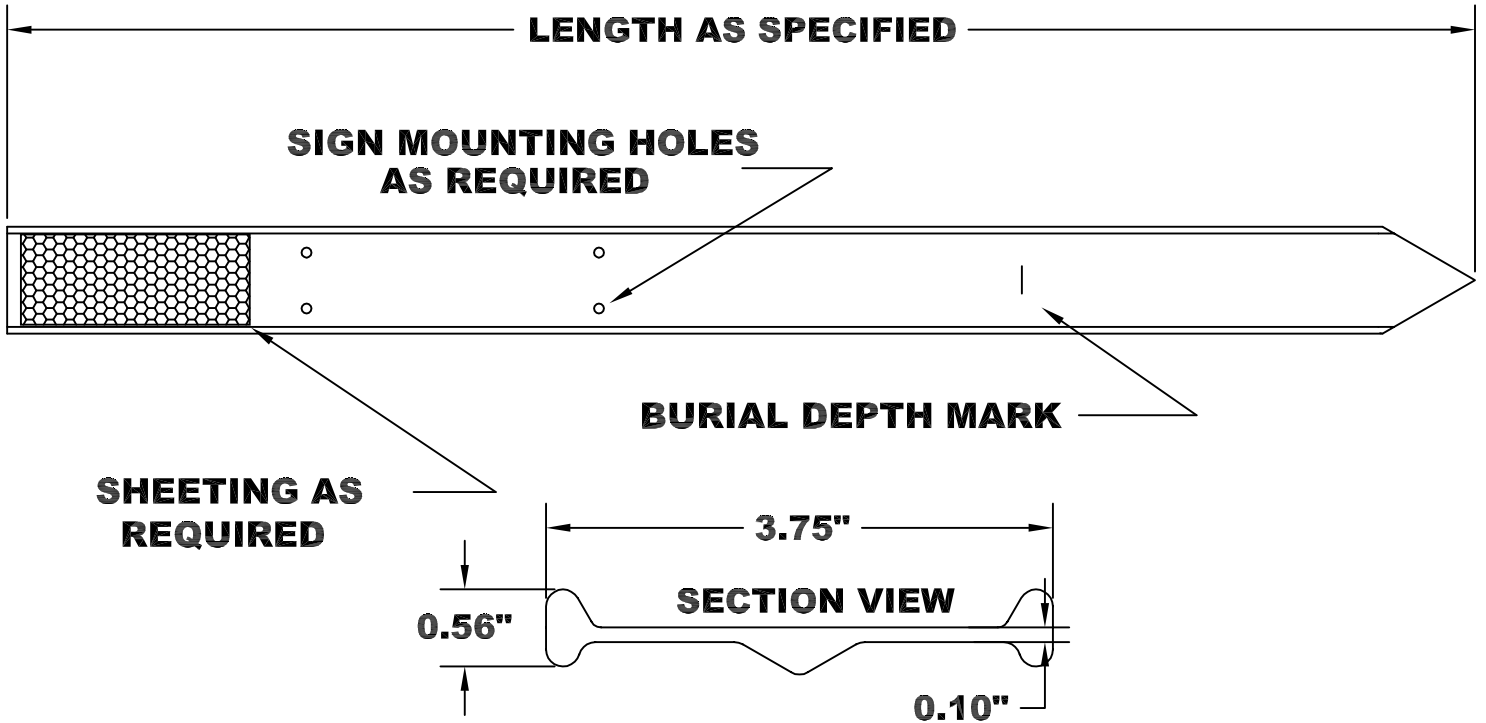


FIGURE 1