

## ENNIS FLINT/ STIMSONITE SNOWPLOWABLE MARKER INSTALLATION PROCEDURES

This procedure outlines the recommended steps for the installation of the Ennis-Flint Stimsonite Lens Cradle Model 201 snowplowable raised pavement markers.

*Note: Do not install markers unless air temperature and humidity are within the specifications outlined by the epoxy manufacturer.*

### **Determine where to locate the marker.**

Locate the Snowplowable marker so that the reflective face is perpendicular to the roadway centerline. When using Snowplowable markers to supplement a solid pavement stripe, offset the markers 2" from the edge of the stripe. This permits painting of the line without affecting the Snowplowable marker. **DO NOT** locate Snowplowable markers in longitudinal or transverse pavement joints or in cracks in the pavement surface. Place the marker at least 2" from any joint or crack in the pavement surface.

Cut the pavement to fit the marker. NOTE: Markers must be installed in a new saw cut.

### **Never attempt to re-use an existing hole that previously held a marker.**

Using an 18" or 20" diameter cutting blade, cut the pavement at a groove width of 5.25 inches and a groove length of approximately 9 feet. Make a tapered cut that gradually cuts to a 0.40 inch depth for approximately 3'0" in length. Then, the blade should plunge to a depth of approximately 1" for the first cradle's installation point. The blade should return to the 0.40 inch depth for approximately 1'0" and then make a second plunge cut to a depth of 1" for the second cradle's installation point. The groove depth should return to the 0.40 inch depth and then gradually taper up to the road surface for the remaining 3'0". For a visual image of the groove dimensions please see the Lens Cradle brochure. (Please note that equipment modifications may be necessary to accommodate the above groove dimensions)

### **Clean and dry the saw cut.**

The saw cut area **MUST BE DRY** and free of dust, dirt or any material which will adversely affect the bond of the adhesive.

### **Apply epoxy adhesive.**

Combine and mix an epoxy meeting AASHTO Designation M 237, Type IV (or approved equal) just prior to anchoring the markers. Automatic dispensing equipment is recommended. Hand mixing should be limited to very small projects. When using a 1:1 epoxy, combine equal parts of component A and component B. Mix thoroughly. Properly mixed, the epoxy will be uniform gray, without visible streaks. (Follow manufacturer's instructions for other approved epoxies) Pour the epoxy into the outer two grooves and the cut area between them. Some adhesive should overflow around all edges of the installed casting to seal the saw cut area. Add additional epoxy as needed to fill gaps.

**Caution:** Epoxy adhesive cures best at temperatures above 60 degrees F (15.5 degrees C) and low relative humidity. Always follow epoxy manufacturer's guidelines for use.

### **Place the marker.**

Place the casting by hand into the epoxy-filled saw cut. For a dual casting application of two castings per 9' groove, place one casting at the point of the groove where the cut has descended to the 1" depth and then place a second casting at the other plunge point with a 1" depth. The distance between the two markers should be approximately 2 feet from center point to center point. Both leveling tabs must rest flat on the pavement surface. The leading edge of the Lens Cradle casting must lie completely below the pavement surface.

**Note:** It is critical that the two tabs resting directly on the asphalt surface. And, the replaceable C40 marker is completely below the pavement surface. If this is not the case, then the installation is improper and the casting must be removed and reinstalled in a new saw cut. Make certain that the epoxy does not flow onto the reflective face or the plate in front of it. Protect markers from traffic until the epoxy completely hardens.