SIZE I Sieve Size	Percent Retained	SIZE II Sieve Size	Percent Retained
2.00 mm (No. 10)	0	850 µm (No. 20)	0-5
1.70 mm (No. 12)	0-5	600 µm (No. 30)	5-20
1.40 mm (No. 14)	5-20	300 µm (No. 50)	30-75
1.18 mm (No. 16)	40-80	180 µm (No. 80)	9-32
1.00 mm (No. 18)	10-40	150 µm (No. 100)	0-5
850 µm (No. 20)	0-5	pan	0-2
pan	0-2		

Reflective Media: The glass beads shall be smooth, clear, free from any air inclusions and scratches that might affect their functions as a retro-reflective media, and shall have the characteristics listed below.

Roundness (Percent by Weight): Not more than 20 percent of the glass beads shall be irregular or fused spheroids, and at least 80 percent of the beads shall be true beads.

Index of Refraction: The refractive index of the beads shall be a minimum of 1.50 as determined by the liquid immersion method at 25º C (77º F). The silica content of glass beads shall not be less than 60%.

Coating: The glass beads, Size I, shall be coated with a silane-type adherence coating to enhance its embedment in, and adherence to the applied binder film. The coated beads shall emit a yellow-green fluorescence when tested by the Dansyl Chloride test procedure. The Size II glass beads shall be treated with a moisture-proof coating. Both types of glass beads shall show no tendency to absorb moisture in storage and shall remain free of clusters and lumps. They shall flow freely from dispensing equipment at any time when surface and atmosphere conditions are satisfactory for marking operations.

The moisture-resistance of the glass beads shall be determined on the basis of the following test:

Place 1 kg (2.2 pounds) of beads in a washed cotton bag, having a thread count of 8 per square centimeter (50 per square inch) (warp and woof) and immerse the bag in a container of water for 30 seconds. Remove the bag and force the excess water from the sample by squeezing the bag. Suspend and allow to drain for two hours at room temperature (21º-22ºC) (70º-72ºF). After draining mix the sample in the bag by shaking thoroughly. Transfer a sample slowly to a clean, dry glass funnel having a stem 100 mm (4 inches) in length, with a 10 mm (3/8 inches) inside diameter stem entrance opening and a minimum exit opening of 6 mm (1/4 inches). The entire sample shall flow freely through the funnel without stoppage. When first introduced to the funnel, if the beads clog, it is permissible to tap the funnel to initiate flow.

828.04 Equipment. Equipment for applying the epoxy pavement marking shall be capable of mixing the components in proportions recommended by the manufacturer and applying glass beads at the time of the line placement. The equipment used shall be capable of applying epoxy material at the specified thickness, width and pattern. The Contractor shall provide a calibrated measuring device acceptable to the Engineer to measure the epoxy resin in the striper tanks.

The application equipment shall be a mobile, truck mounted and self contained pavement marking machine, specifically designed to spray the epoxy binder and reflective glass beads in continuous and skip line patterns. The application equipment shall be maneuverable to the extent that straight lines can be followed and normal curves can be made in a true arc. In addition, the truck mounted unit shall be provided with accessories to allow for the marking of legends, symbols, crosswalks, and other special patterns.

The Engineer and the Material Manufacturer together may approve the use of a portable applicator in lieu of truck mounted accessories for use in applying special marking only, provided such equipment can demonstrate satisfactory application of reflectorized markings in accordance with these specifications.

The mobile applicator shall include the following features:

1. Individual material reservoirs, or space, for the storage of Part A and Part B of the epoxy binder.

2. Heating equipment of sufficient capacity to maintain the individual binder components at the manufacturer's recommended temperature and produce the required amount of heat at the mixing head & gun tip and maintain those temperatures with the tolerances recommended by the binder manufacturer for the spray application.

3. Adequate individual tanks for the storage and dispensing of Size I and Size II glass beads.

4. Individual dispensers for the simultaneous application of Size I and Size II glass beads respectively. Each dispenser shall be capable of applying beads at a rate up to 2.4 kg per liter (20 pounds per gallon).