

**LOUISIANA  
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT  
SPECIFICATIONS**

**TYPE 3 COATED GLASS BEADS**

**DESCRIPTION:**

The Type 3 coated glass beads in this specification are to be used with a binder for pavement markings.

**GENERAL REQUIREMENTS:**

The beads shall be transparent, clean, colorless glass, smooth and spherically shaped, free from milkiness, pits, or excessive air bubbles and conform to the requirements of AASHTO M 247 as modified herein. The beads shall be coated for moisture resistance and adherence.

**SPECIFIC REQUIREMENTS:**

A specimen consisting of one unopened 50 pound bag of beads shall be submitted to the DOTD Material and Testing Laboratory for testing. When beads are supplied in bulk boxes, the sample shall consist of a one gallon friction top can filled approximately three quarters full.

**1. Moisture Resistance:**

Flow characteristics – The beads shall not absorb moisture in storage. They shall remain free of clusters and lumps and shall flow freely from the dispensing equipment.

**2. Gradation:**

Glass beads shall meet the gradation requirements of AASHTO M 247 for Type 3 beads when tested in accordance with ASTM D1214.

**3. Roundness:**

Beads shall have a minimum of 75 percent true spheres when tested according to ASTM D1155, Method A.

**4. Angular Particles:**

The beads shall have no more than 3 percent angular particles per screen.

**5. Refractive Index:**

The beads shall have a minimum refractive index of 1.50 when tested by the liquid immersion method.

**6. Adherence Coating:**

All beads shall be coated with an adhesion assuring coating when tested in accordance with AASHTO M 247.

**7. Heavy Metal Limits:**

Glass beads shall not contain more than 75 parts per million of inorganic arsenic when tested using EPA Method 6010B in conjunction with EPA Method 3052 for sample preparation. The manufacturer shall provide test results as part of the Certificate of Analysis on each batch to show adherence to this requirement.

**8. Packaging and Markings:**

**8.1 Product ID 11313**

**8.1.1** The beads shall be packaged in 50 pound moisture proof bags.

**8.2 Product ID 11314**

**8.2.1** The beads may be packaged in bulk box containers containing approximately 2,000 pounds  $\pm 1\%$  of beads. The bulk box containers shall be cardboard. The bulk box container shall be strapped or stretch wrapped so no product shifting or damage will occur during shipment. The bulk box container shall be capable of being lifted with a fork lift.

**8.3 Bag or Bulk Box Markings:**

Name and Address of Manufacturer  
Shipping Point  
Trademark or Trade Name  
Wording "Type 3 Coated Glass Beads"  
Weight  
Lot Number  
Month and Year of Manufacture

**9. SAMPLING AND ACCEPTANCE:**

The manufacturer shall submit certificate of analysis on each lot shipped. DOTD will sample and test one sample per lot and/or shipment. The sample shall be as indicated in the SPECIFIC REQUIREMENTS.