

## Section 4184. Reflectorizing Spheres for Traffic Paint

### 4184.01 DESCRIPTION.

- A. This specification covers two types of glass spheres, dual coated and uncoated, for the production of reflectorized pavement markings.
- Waterborne and VOC compliant solvent borne traffic paint: use dual coated beads (silicone and silane).
  - Epoxy pavement markings: use silicone only coated beads (no silane).
  - ~~VOC compliant, solvent borne paint: use uncoated beads.~~
- B. The glass beads shall not exhibit a characteristic of toxicity, relative to heavy metals when tested in accordance with EPA 40CFR 261.24. Use transparent, clear, colorless glass spheres that are:
- Free from milkiness, dark particles, and excessive air inclusions.
  - Essentially clear from surface scarring or scratching.
  - Free of hard lumps and clusters
  - Readily dispensed under any conditions suitable for paint striping.

### 4184.02 SPECIFIC REQUIREMENTS.

A. **Gradation.**

Meet the gradation requirements of Table 4184.02-1.

Table 4184.02-1: Gradation Requirements (Glass Spheres)

Sieve Size	Percent Passing
16 (1180 µm)	100
20 (850 µm)	95-100 90-100
30 (600 µm)	75-95 50-75
40 (425 µm)	15-45
50 (300 µm)	15-35 0-15
100 (150 µm)	0-5

B. **Roundness.**

Minimum of 80% true spheres.

C. **Refractive Index.**

Minimum refractive index of 1.50.

D. **Properties of Dual Coated Spheres.**

1. Coated with a dual coating that has both a moisture resistant silicone coating and an adhesion promoting silane coating.
2. Passes the moisture resistance test and the adherence coating test.

E. **Properties of Silicone Coated Spheres.**

1. Coated only with a silicone coating (no silane).
2. Passes the moisture resistance test and test negative for the adherence coating test.

~~F. **Properties of Uncoated Spheres.**~~

~~Passes the free flow test.~~

### 4184.03 METHODS OF TEST.

Test the specific requirements according to Office of Materials Test Method No. Iowa 814.