

Section 4184. ReflectORIZING SPHERES FOR TRAFFIC PAINT

4184.01 DESCRIPTION.

- A. This specification covers two types of glass spheres, coated and uncoated, for the production of reflectorized pavement markings.
 - Waterborne 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. 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
30 (600 µm)	75-95
50 (300 µm)	15-35
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.