

ITEM 662

GLASS REFLECTIVE SPHERES FOR TRAFFIC PAINT

662.1 Description. This item shall govern for the quality of materials and the delivery of glass reflective spheres to be used with traffic paint.

662.2 Delivery of Materials. All materials shall be delivered to the job site in suitable, strong, well sealed containers which not only meet specifications and Federal requirements, but are also sufficiently sturdy to withstand normal handling to which shipments are subjected to transit. CONTAINERS AND CASES SHALL BE PLAINLY AND SECURELY LABELED WITH THE NAME AND THE DESIGNATION, ORDER NUMBER, REQUISITION NUMBER, BATCH NUMBER, DATE OF MANUFACTURE, GROSS WEIGHT, AND MANUFACTURER'S NAME. LABELING SHALL BE ON THE SIDE OF CONTAINERS AND CASES. LABELS MUST BE SUFFICIENTLY MOISTURE-RESISTANT TO WITHSTAND STORAGE FOR A MINIMUM OF ONE YEAR. When the finished product is palletized for shipment, the labels shall be on the outside for easy identification. Once the finished product has been labeled properly the label shall not be modified or changed in any manner without specific approval of the County Engineer.

A. Drop-In Marking Material: Not more than 30% of the Glass Spheres shall be irregular or fused spheroids, and at least 70% of the spheres shall be true spheres.

The method of test shall be in accordance with ASTM D-1155 "Method of Test for Determining Roundness of Glass Spheres".

B. Refractive Index: The spheres when tested by liquid immersion method at 25 Deg. C., shall show an index of refraction within the range of 1.50 to 1.60.

C. Silica Content: The Silica Content (Si O_2) of the Glass Spheres shall not be less than sixty (60) percent.

D. Gradation: The Glass Spheres shall conform to the following Gradation U.S. Standard Sieve Size

	<u>Minimum</u>	<u>Maximum</u>
Passing #20, Retained #30	5%	20%
Passing #30, Retained #50	30%	75%
Passing #50, Retained #80	9%	32%
Passing #80	0%	15%

The method of test shall be in accordance with ASTM D1214, "Method of Test for Sieve Analysis of Glass Spheres".

- E. Moisture Resistance: A minimum of 2 lbs. of Spheres are placed in the cotton bag furnished with the sample and shall be subjected to the following moisture resistance test. Immerse the bag containing the sample in a container of water for 30 seconds or until water covers the spheres, whichever is longer. Remove the bag and force excess water from the sample by squeezing the bag. Suspend the bag and allow to drain for 2 hours at room temperature (70° - 72°F). At the end of this time, mix the sample in the bag by shaking the bag thoroughly. Transfer sample slowly to a clean, dry funnel having a stem 4" in length, with a 3/8" inside dia. stem entrance opening and minimum exit (which is made of glass). If the spheres clog, it is permissible to lightly tap the glass funnel to initiate the flow.
- F. Stability: True spheres, determined by paragraph above, passing U.S. Standard Sieve #20 and retained by U.S. Standard Sieve #30, also True Spheres passing U.S. Standard Sieve #30 and retained on U.S. Standard Sieve #40, shall be submitted to crushing resistance test in accordance with ASTM D-1213, "Determining the Crushing Resistance of Glass Spheres". The minimum crushing strength shall be as follows:

Passing #20, Retained #30	40 lbs.
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Passing #30, Retained #40	30 lbs.
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662.4 Testing. The contractor shall permit inspection and sampling of all raw materials and finished materials furnished and applied under this contract for the purpose of testing the said materials by an independent licensed testing laboratory to insure the specified quantity and quality requirements as set out herein.

The contractor shall submit one quart of beads proposed for use to an independent licensed testing laboratory for testing. All testing shall be done by an independent licensed testing laboratory and two (2) copies of the test results shall be furnished to the County Engineer and the County Purchasing Agent prior to delivery of product. Contractor shall not be considered complete until such copies are received by Harris County.

662.5 Rejection. Materials and finished product which fail to meet any or all requirements of these specifications shall be subject to rejection.

All materials and finished products rejected by the Engineer, whether in containers or applied to roadway surface, shall be removed from the job site and replaced with materials meeting specifications and requirements and all costs of such removal and replacement shall be borne by the Contractor.

- 662.6 Measurement. Glass reflective beads shall not be measured, but shall be considered subsidiary to the cost of paint striping.
- 662.7 Payment. Glass reflective beads shall not be paid for separately but shall be subsidiary to the cost of paint striping.

There are line code(s), description(s), and unit(s) for this item.

END OF ITEM 662