

111TH CONGRESS  
2D SESSION

# H. R. 5245

To establish minimum standards for engineered glass beads used in reflective markings.

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## IN THE HOUSE OF REPRESENTATIVES

MAY 6, 2010

Mr. HOLDEN (for himself and Mr. SHUSTER) introduced the following bill;  
which was referred to the Committee on Transportation and Infrastructure

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## A BILL

To establish minimum standards for engineered glass beads  
used in reflective markings.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*

3       **SECTION 1. SHORT TITLE.**

4       This Act may be cited as the “Safe Highway Mark-  
5       ings Act of 2010”.

6       **SEC. 2. MINIMUM STANDARDS FOR ENGINEERED GLASS**  
7       **BEADS USED IN REFLECTIVE MARKINGS.**

8       (a) AMENDMENT.—Chapter 3 of title 23, United  
9       States Code, is amended by adding after section 329 the  
10      following new section:

1 **“§ 330. Minimum standards for engineered glass**  
2 **beads used in reflective markings**

3 “(a) MINIMUM STANDARDS.—

4 “(1) IN GENERAL.—Subject to paragraph (2), a  
5 State that receives funds under this title shall en-  
6 sure that any new application of reflective markings,  
7 on or along any road or highway, shall be made  
8 from a binder that has been mixed, in whole or in  
9 part, with engineered glass beads. Such beads may  
10 not contain more than 200 parts per million arsenic,  
11 as determined by the Environmental Protection  
12 Agency Method 6010C in conjunction with the Envi-  
13 ronmental Protection Agency Method 3052 modified.

14 “(2) FAILURE TO COMPLY.—The Secretary of  
15 Transportation, acting through the Administrator of  
16 the Federal Highway Administration, shall withhold  
17 up to 5 percent of the amount required to be appor-  
18 tioned to a State under section 104(b) (1), (3), and  
19 (4) of title 23 on the first day of the fiscal year be-  
20 ginning after September 30, 2011, throughout which  
21 the State does not comply substantially with a re-  
22 quirement of this section.

23 “(3) AVAILABILITY FOR APPORTIONMENT.—  
24 Amounts withheld under this section from appor-  
25 tionment to a State after September 30, 2011, are not  
26 available for apportionment to the State.

1 “(b) DEFINITIONS.—In this section:

2 “(1) ENGINEERED GLASS BEADS.—The term  
3 ‘engineered glass beads’ means glass beads produced  
4 to meet retroreflectivity and durability performance  
5 based on the following properties:

6 “(A) Size distribution (bead size distribu-  
7 tion ranges between 100 U.S. Mesh to 14 U.S.  
8 Mesh) exposes at least 35 percent of the diame-  
9 ter of the glass beads above the dry paint sur-  
10 face with remaining glass embedded into the  
11 paint.

12 “(B) Surface functional coating ensures  
13 that the inorganic composition of the glass bead  
14 surface is compatible with the organic composi-  
15 tion of the paint formulation to achieve ade-  
16 quate bead-paint adhesion.

17 “(C) Refractive index of the glass bead  
18 provides the required light refraction character-  
19 istics that will enable adequate retroreflectivity  
20 performance (refractive index in the 1.50 to  
21 1.60 range) required for the application.

22 “(D) Mechanical properties of the glass  
23 bead allow adequate strength (compressive  
24 strength of at least 30,000 pounds per square

“(E) Chemical make of the glass beads (soda-lime-silica based chemistry) allows the use of environmentally acceptable recycled glass types, such as flat and container type glasses, as the main raw material in the manufacturing process.

9                   “(2) REFLECTIVE MARKING.—The term ‘reflec-  
10           tive marking’ means a system composed of pig-  
11           mented binders, including paint, thermoplastic, and  
12           epoxy, that is applied at a predefined thickness onto  
13           the pavement surface with glass beads mixed into or  
14           dropped onto the binder at a predefined surface cov-  
15           erage rate.”.

(b) CONFORMING AMENDMENT.—The analysis for chapter 3 of title 23 is amended by adding after the item relating to section 329 the following:

“330. Minimum standard for engineered glass beads used in reflective markings.”.

19 **SEC. 3. EFFECTIVE DATE.**

20           This Act and the amendments made by this Act shall  
21 become effective 90 days after the date of enactment of  
22 this Act.

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