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DEPARTMENT OF COMMERCE
BUREAU OF STANDARDS
WASHINGTON

Letter
Circular

LC 301

April 9, 1931.

TRAFFIC PAINT

This Bureau has not made a very extensive investigation of traffic paint. However at the request of the Traffic Department of the District of Columbia an investigation was made which was confined to white traffic marking paint for use on bituminous or cement-concrete roadways. As a result of this investigation there was prepared for the District of Columbia in January 1928 a tentative specification for white traffic paint having a pigment containing at least 85 per cent of lithopone. Later experiments indicated that addition of zinc oxide to the pigment improved the paint, and the following tentative specification for Traffic White Paint represents our latest recommendations.

Tentative Specification for Traffic White Paint

(Semipaste and Ready-Mixed)

I. GENERAL

This paint is intended for outdoor use on bituminous or cement-concrete roadways.

II. CLASSES

Traffic white paint shall be of the following classes as specified: Semipaste or ready-mixed paint.

III. MATERIAL

See Section V.

IV. GENERAL REQUIREMENTS

See Section V.

V. DETAIL REQUIREMENTS

1. Pigment.— The pigment shall be composed of:

	Maximum Per Cent	Minimum Per Cent
Lithopone	65	55
Zinc oxide	35	20
Paint pigments other than lithopone and zinc oxide	15	--

The lithopone used shall contain not less than 28 per cent of zinc sulphide and shall not darken on exposure.

2. Liquid.— The liquid in both the semipaste and the ready-mixed paint shall consist of a pale-colored varnish together with turpentine or volatile mineral spirits or a mixture thereof. The vehicle in the semipaste shall contain not less than 65 per cent of non-volatile matter, which shall dry to a tough, elastic, and durable film. The vehicle in the ready-mixed paint shall contain not less than 45 per cent of non-volatile matter which shall also dry to a tough, elastic, and durable film. This shall be determined by the method given in Bureau of Standards Circular No. 147, page 5, paragraph (k), "Nature of Nonvolatile Vehicle".

3. Semipaste.— Semipaste shall be made by thoroughly grinding the pigment with the liquid. The semipaste as received and three months thereafter shall be of a smooth paste consistency that can be thinned with the usual paint liquids. The paste shall consist of:

	Maximum Per Cent	Minimum Per Cent
Pigment	80	75
Liquid (containing at least 65 per cent of non-volatile matter) . .	25	20
Water (if present)	1	--

4. Ready-Mixed Paint.— Ready-mixed paint, as received, shall be suitable for use with the usual paint brush or a paint machine. It shall be well ground, shall not "liver", settle badly, cake, or thicken in the container within three months of date of delivery. It shall flow evenly and smoothly, and shall cover solidly in one coat on asphalt. It shall not cause the asphalt to "bleed" either during application or while it is drying. A single coat shall set within one-half hour (so that there shall be no pick-up under traffic) and thoroughly dry within one hour (free from tackiness) to an elastic, opaque, adherent finish. It shall give a brilliantly white finish free from laps or brushmarks. It shall not turn gray in sunlight or show appreciable discoloration with age. The color, hiding power and finish, when specified, shall be

equal to those of a sample mutually agreed upon. The paint shall pass the toughness and elasticity test as given in Federal Specification No. 21b (Bureau of Standards Circular No. 111, 3d Ed., page 6) except that the addition of kauri solution shall be omitted.

The paint shall consist of:

	Maximum Per Cent	Minimum Per Cent
Pigment	--	65
Liquid (containing not less than 45 per cent of non-volatile matter) . .	35	--
Water (if present)	1.0	--

VI. METHODS OF TEST

Methods of tests shall be those used at the U. S. Bureau of Standards.

We are not prepared to recommend this as a standard specification for traffic paint, though it appears to be giving good service.

The methods of test referred to in Section VI of the above specification are contained in Federal Specification No. 21b which is now obtainable as Bureau of Standards Circular No. 111, 3d Ed., for 5 cents (stamps not accepted) from the Superintendent of Documents, Government Printing Office,

Washington, D. C. Federal Specification No. 21b will be printed later by the Federal Specifications Board as part of the Federal Standard Stock Catalogue under the specification symbol TT-P-41, and Bureau of Standards Circular 147, Federal Specification No. 67 will be printed later as part of the Federal Standard Stock Catalogue under the specification symbol TT-P-46.



