



Designation: D 1648 – 86 (Reapproved 2003)

Standard Specification for Basic Lead Silicochromate Pigment¹

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1. Scope

1.1 This specification covers two types of pigment commercially known as basic lead silicochromate.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

2. Referenced Documents

2.1 ASTM Standards:²

D 1208 Test Methods for Common Properties of Certain Pigments

D 1366 Practice for Reporting Particle Size Characteristics of Pigments

D 1844 Test Methods for Chemical Analysis of Basic Lead Silicochromate

E 20 Practice for Particle Size Analysis of Particulate Substances in the Range of 0.2 to 75 μm by Optical Microscopy

3. Composition and Properties

3.1 Both types of pigment shall consist of silica coated with lead silicates and lead chromates and shall conform to the requirements in Table 1.

3.2 The mass color and character of the tint obtained by mixing the pigment with a white pigment shall be the same as that of a reference sample mutually agreed upon by the purchaser and the seller.

3.3 The oil absorption shall be equal, within agreed upon tolerances, to that of a reference sample agreed upon by the purchaser and the seller.

3.4 Particle Size:

3.4.1 *Type 1*—This grade is characterized by major amounts of particles in the 6.5- to 28- μm range. Coarse particles

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

TABLE 1 Requirements for Pigments

	Weight %			
	Type 1 Regular Particle Size		Type 2 Fine Particle Size	
	Min	Max	Min	Max
Lead oxide (PbO)	46.0	49.0	42.5	46.0
Chromium trioxide (CrO ₃)	5.1	5.7	6.3	7.2
Silica (SiO ₂)	45.5	48.5	47.5	50.5
Moisture and other volatile matter, %	...	0.2	...	0.2
Ignition loss at 450 to 550°C, %	...	0.2	...	0.2

retained on a 45- μm (No. 325) sieve shall be less than 0.3 %. The maximum specific surface diameter (SSD) shall be 8.5 μm .

3.4.2 *Type 2*—This grade is characterized by major amounts of fine-sized particles. In general, the maximum size is essentially below 1.0 to 2.5 μm . Coarse particles retained on a 45- μm (No. 325) sieve shall be less than 0.1 %. The maximum Specific Surface Diameter (SSD) shall be 2.0 μm .

3.4.3 Where closer control within a grade is required, the fineness requirements shall be as agreed upon by the purchaser and the seller.

4. Sampling

4.1 Two samples shall be taken at random from different packages from each lot, batch, day's pack, or other unit of production in a shipment. When no markings distinguishing between units of a production appear, samples shall be taken from different packages, in the ratio of two samples for each 5000 kg (10 000 lb), except that for shipments of less than 10 000 lb two samples shall be taken. At the option of the purchaser, the samples may be tested separately or after blending in equal quantities the samples from the same production unit to form a composite sample.

5. Test Methods

5.1 Tests shall be conducted in accordance with the following ASTM test methods. Test procedures not covered by ASTM test methods shall be mutually agreed upon by the purchaser and the seller.

5.2 *Chemical Analysis*—Test Methods D 1844.