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Standard Specification for Aluminum Powder and Paste Pigments for Paints¹

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^{ε1} NOTE—The units statement in subsection 1.2 was corrected editorially in July 2008.

1. Scope

1.1 This specification covers four types and three classes of aluminum pigments for use in paints.

1.2 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

2. Referenced Documents

2.1 *ASTM Standards*:²

D480 Test Methods for Sampling and Testing of Flaked Aluminum Powders and Pastes

E34 Test Methods for Chemical Analysis of Aluminum and Aluminum-Base Alloys

3. Classification

3.1 *Type I—Leafing Aluminum Pigment Powder*:

3.1.1 *Class A, Fine*—Maximum of 0.1 % retained on a No. 325 (45- μ m) sieve.

3.1.2 *Class B, Medium*—Maximum of 1.5 % retained on a No. 325 (45- μ m) sieve.

3.1.3 *Class C, Coarse*—Maximum of 20 % retained on a No. 325 (45- μ m) sieve.

3.2 *Type II—Leafing Aluminum Pigment Paste*:

3.2.1 *Class A, Fine*—Maximum of 0.1 % retained on a No. 325 (45- μ m) sieve.

3.2.2 *Class B, Medium*—Maximum of 1.0 % retained on a No. 325 (45- μ m) sieve.

3.2.3 *Class C, Coarse*—Maximum of 15 % retained on a No. 325 (45- μ m) sieve.

3.3 *Type III—Nonleafing Aluminum Pigment Powder* (Note):

3.3.1 *Class A, Fine*—Maximum of 1.5 % retained on a No. 325 (45- μ m) sieve.

3.3.2 *Class B, Medium*—Maximum of 6.0 % retained on a No. 325 (45- μ m) sieve.

3.3.3 *Class C, Coarse*—Maximum of 20 % retained on a No. 325 (45- μ m) sieve.

3.4 *Type IV—Nonleafing Aluminum Pigment Paste* (Note 1):

3.4.1 *Class A, Fine*—Maximum of 0.1 % retained on a No. 325 (45- μ m) sieve.

3.4.2 *Class B, Medium*—Maximum of 1.0 % retained on a No. 325 (45- μ m) sieve.

3.4.3 *Class C, Coarse*—Maximum of 11.0 % retained on a No. 325 (45- μ m) sieve.

NOTE 1—The particle size characteristics of the Type 3 and Type 4 pigments of the same class do not correspond with each other; in the case of Types 1 and 2 they do.

4. Composition and Properties

4.1 *Aluminum Pigment Powder (Type I, Leafing and Type 3, Nonleafing)*—The aluminum pigment powder shall consist of commercially pure aluminum in the form of fine, polished flakes, and a suitable fatty lubricant. It shall contain no filler or extender pigments.

4.2 *Aluminum Pigment Paste (Type 2, Leafing and Type 4, Nonleafing)*—The aluminum pigment paste shall consist of commercially pure aluminum in the form of fine, polished flakes, and a suitable fatty lubricant combined with a volatile thinner. It shall contain no filler or extender pigments.

4.3 The aluminum pigments, powder, and paste of both leafing and nonleafing types shall conform to the requirements given in Table 1.

4.4 The paint made from the powder or paste shall be free-flowing and shall give a continuous coating at least equal in smoothness, luster, and general appearance to that of a reference sample mutually agreed upon by the purchaser and the seller.

4.5 The aluminum pigments, powder and paste of both leafing and nonleafing types, stored in unopened original packages within 6 months after shipment shall pass all tests applicable to the respective type and class as described in Test Methods D480.

¹ This specification is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.31 on Pigment Specifications.

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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.