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Standard Guide for Analysis of Electrocoat Bath Samples[1]

This standard is issued under the fixed designation D 1978; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This guide covers the selection of test methods for determination of the important parameters that affect the performance of electrocoating paints.

1.2 The test methods involved are D 4370, D 4399, D 4584, and D 5145.

2. Referenced Documents

2.1 *ASTM Standards:*

D 4370 Test Methods for Acid and Base Milliequivalent Content of Electrocoat Bath Samples[2]

D 4399 Test Method for Measuring Electrical Conductivity of Electrocoat Baths[2]

D 4584 Test Method for Measuring Apparent pH of Electrocoat Baths[2]

D 5145 Test Method for Nonvolatile and Pigment Content of Electrocoat Baths[2]

3. Significance and Use

3.1 This guide indicates test procedures recommended for the maintenance of acceptable performance of the paint in an electrocoating bath. Several critical parameters must be determined throughout the operation of the bath. These parameters must be adjusted when deviations from the norm occur.

3.2 The test methods for electrocoat baths are unique, as the aqueous samples have a nonvolatile content between 8 and 25 %. Constant agitation must be present when the samples are taken and during the measurement of some of the parameters.

4. Test Methods

4.1 *Acid and Base Content*—Test Methods D 4370 covers the determination of acid and base milliequivalent content of electrocoat baths.

4.2 *Electrical Conductivity*—Test Method D 4399 describes the determination of the electrical conductivity of electrocoat baths.

4.3 *pH Determination*—Test Method D 4584 describes the measurement of the apparent pH of paints and ultrafiltrates of electrocoat baths.

4.4 *Nonvolatile and Pigment Content*—Test Method D 5145 covers the determination of nonvolatile and inorganic pigment content of electrocoat baths.

5. Precision

5.1 The referenced test methods have precision limits listed. Reference to the individual standards for precision statements is recommended.

6. Keywords

6.1 electrical conductivity; nonvolatile content; electrocoat baths; pH; pigment content

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[2] *Annual Book of ASTM Standards*, Vol 06.01.