



Standard Specification for Iron Blue Pigment¹

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1. Scope

1.1 This specification covers the dry pigment commercially known as Prussian blue, Chinese blue, Milori blue, or iron blue.

2. Referenced Documents

2.1 *ASTM Standards:*

D 387 Test Method for Color and Strength of Color Pigments with a Mechanical Muller²

D 1135 Test Methods for Chemical Analysis of Blue Pigments³

3. Composition and Properties

3.1 The pigment shall be the blue product formed by the reaction of a solution of iron salts with a ferrocyanide or ferricyanide solution. It shall be free from admixture of any substances other than those added during manufacture, in small amounts up to a total of 5 %, for the purpose of improving the quality or working properties, or both, of the pigment. Extenders, and diluents such as barium sulfate, silica, silicates, calcium carbonate, calcium sulfate, magnesium carbonate, etc., shall be absent. The pigment shall conform to the following requirements:

Total matter soluble in water, max, %	1.0
Moisture, max, %	8.0
Organic colors or lakes	none
Acidity or alkalinity—the acidity or alkalinity of the aqueous extract, with methyl orange indicator, shall not exceed the chemical equivalent of 0.1 % of sulfuric acid, calculated on the dry pigment.	

3.2 The mass color and character of the tint and the tinting strength formed by a mixture with a white pigment shall be within mutually agreed upon limits of a standard acceptable to both the purchaser and the seller.

NOTE 1—The physical properties and tests of iron blue, particularly the

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

³ *Annual Book of ASTM Standards*, Vol 06.03.

tinting strength, are considered a better measure of value than the percentages of chemical constituents.

4. Sampling

4.1 Two samples shall be taken at random from different packages from each lot, batch, day's pack, or other unit or production in a shipment. When no markings distinguishing between units or production appear, samples shall be taken from different packages in the ratio of two samples for each 5 tons (inch-pound or SWI), 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 appropriate ASTM test methods. Test procedures not covered by ASTM test methods shall be mutually agreed upon between the purchaser and the seller.

5.2 *Identification*—Test Methods D 1135.

5.3 *Extenders and Diluents*—Test Methods D 1135.

5.4 *Total Matter Soluble in Water*—Matter soluble in water shall be determined by either of the following methods, as mutually agreed upon between the purchaser and the seller:

5.4.1 *Water-Soluble Matter by Extraction*—Test Methods D 1135.

5.4.2 *Water-Soluble Salts by Electrical Conductivity*—Test Methods D 1135.

5.5 *Moisture in Dry Pigment*—Moisture shall be determined by either of the following methods, as mutually agreed upon between the purchaser and the seller:

5.5.1 *Brabender Moisture Tester*—Test Methods D 1135.

5.5.2 *Toluene Distillation*—Test Methods D 1135.

5.6 *Organic Colors or Lakes*—Test Methods D 1135.

5.7 *Mass Color and Tinting Strength*—Test Method D 387.

6. Keywords

6.1 iron blue; Milori blue; pigment; Prussian blue; tint; tinting strength

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