



Designation: D 5383 – 02

Standard Practice for Visual Determination of the Lightfastness of Art Materials by Art Technologists¹

This standard is issued under the fixed designation D 5383; 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 practice covers a method for exposing specimens of colored art materials indoors to sunlight coming through a closed window. A card containing eight Blue Wool References² is exposed simultaneously. Blue Wool References² 3, 6, and 7, are used as controls in determining when to remove test specimens from exposure and rate them. Test specimens are rated by assigning each specimen the number of the Blue Wool Reference that shows the same amount of color change.

1.2 This practice may be used to indicate art materials that will change color within a few months or years in normal indoor exposure and those that will remain unchanged for a period of years. It is not rigorous enough to verify that materials will remain unchanged for more than fifty years in a home or office environment. A major consideration in developing this method was to keep it simple and short enough to be performed without instrumentation in a comparatively short length of time.

1.3 This practice shall only be used to evaluate the lightfastness of art materials not conforming to Specifications D 4302, D 5098 or D 5067 and when it is not feasible to use Test Methods D 4303. Practice D 5398, which is a simpler method, may be used by artists to evaluate the lightfastness of their own materials.

1.4 This practice is not suitable for evaluating materials with a high oil content such as artists' oil, resin oil or alkyd paints.

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

1.6 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

D 4302 Specification for Artists' Oil, Resin Oil and Alkyd Paints³

D 4303 Test Methods for Lightfastness of Pigments Used in Artists' Paints³

D 5067 Specification for Artists' Watercolor Paints³

D 5098 Specification for Artists' Acrylic Emulsion Paints³

D 5398 Practice for Visual Evaluation of the Lightfastness of Art Materials by the User³

E 284 Terminology of Appearance⁴

2.2 Other Standards:

ISO/R 105-B Textiles Tests for Colour Fastness Part B: Colour Fastness to Light and Weathering⁵

British Standard 1006 Group B Methods for Colour Fastness of Textiles and Leathers⁶

3. Terminology

3.1 The definitions included in Terminology E 284 are applicable to this practice.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *bloom, n*—a cloudy coating, sometimes appearing on colored pencil drawings due to migration of wax to the surface, that can be made transparent by gentle polishing.

3.2.2 *fugitive color, n*—colorant that changes color in a few days or weeks, or that bleaches white in less than 18 months, when exposed behind glass to sunlight.

3.2.3 *glazing, n*—the transparent glass or plastic sheet placed in front of a picture when it is framed.

3.2.4 *Substrate, n*—the white, pH neutral paper or board on which the art materials are applied.

4. Summary of Practice

4.1 This practice uses as controls three of the eight ISO Blue Wool References developed for use with ISO/R 105-B and British Standard 1006 Group B.

¹ Precision and Bias This practice is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.57 on Artists Paints and Related Materials.

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² The Blue Wool Reference Card is available from Talas, Division Technical Library Service, 213 W. 35th St. New York, NY 10001-1992.

³ *Annual Book of ASTM Standards*, Vol 06.02.

⁴ *Annual Book of ASTM Standards*, Vol 06.01.

⁵ International Organization for Standardization, ISO/R 105-B is available from the American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

⁶ British Standard 1006 can be obtained from British Standards Institute, Linford Wood, Milton Keynes MK14 6LE, United Kingdom.