

HOLBEIN

HOLBEIN ART MATERIALS INC.

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Holbein, of Osaka Japan, has been producing color for over 120 years. Holbein is acutely aware of and primarily focused on producing exceptional color which will deliver superb handling characteristics and excellent lightfast ratings. In accordance with this perspective, Holbein tested their Colored Pencil line to the ASTM D6901 lightfast standard for Artists' Colored Pencils. The ASTM is an American standard for industrial materials and test methods.

Holbein Artists' Colored Pencils Lightfast Ratings

Methodology:

- (1) The first step: Prepare Test Specimens for all color lines as per the ASTM D6901 directions.
- (2) The second step: Place each Test Specimen into a Weather-o-Meter to be exposed to xenon arc as per the ASTM D6901 directions.
- (3) The third step: Use a Spectro Photo Meter to measure and quantify the changes in the Test Specimens after it had been exposed to xenon arc in the Weather o Meter.
- (4) The fourth Step: Quantify the results after using the Spectro Photo Meter and complete a cross reference using the ASTM D6901 standard to the Holbein Lightfast Rating System. The numbers quantified are indicated using a ΔE^*ab symbol.
The smaller the ΔE^*ab numbers are, the stronger the lightfast rating is.

Holbein Lightfast ratings ASTM D6901 Lightfast ratings (LF)

***	Permanent Colors	LF I:	$\Delta E^*ab < 4$
***	Permanent Colors	LF II:	$4 < \Delta E^*ab < 8$
**	Moderately Durable Colors	LF III:	$8 < \Delta E^*ab < 16$
*	Fugitive Colors	LF IV:	$16 < \Delta E^*ab < 24$
No Star		LF V:	$24 < \Delta E^*ab$

Note: Holbein Artists' Colored Pencils are manufactured with 100% PEFC (Forest Protection Certified) Wood.

<https://www.pefc.org/>

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