TI1876 Revised 7-01

KODAK Copy-Dot Film KD4 / 2573
KODAK Copy-Dot Film KD7 / 4573
KODAK Copy-Dot Film KDM4 / 1573
KODAK Copy-Dot Film KDM7 / 7573

Features / Customer Product Specifications

- A moderately high contrast, stabilized-gelatin, projection-speed, orthochromatic duplicating film on dimensionally stable 0.004-inch (0.10 mm) ESTAR Base or 0.007-inch (0.18 mm) ESTAR Thick Base.
- Provides extremely sharp copy-dot quality when exposed to the emulsion or through the base.
- Recommended for making one-step duplicates from line or halftone reflection copy using a process camera.
- Designed especially for copy-dot exposures using projection step-and-repeat equipment such as OPTI-COPY IMPOSER Camera using either blue or green exposing light sources.
- KD4 and KD7 Films have a standard fine matte surface for use with conventional commercial lithographic printing plates.
- KDM4 and KDM7 Films have a special matte surface on the emulsion side for fast vacuum drawdown when using flexographic or smooth-surface printing plates.
- Improved scratch resistance on the emulsion side, especially after processing.
- Can be processed in a variety of mechanized processors or in a tray using lith-type and rapid access developers.

Safelight Recommendations

Use a KODAK 1A Safelight Filter / light red in a suitable safelight lamp equipped with a 15-watt bulb. Keep the film at least 4 feet (1.2 metres) from the safelight. Total safelight exposure before and after the image exposure should not exceed 8 minutes.

The suitability of any safelight filter and its safe-handling time can easily be determined by exposing the film to a screen tint and using a card to step off various amounts of safelight exposure following the image exposure. A change in dot size will indicate excessive safelight exposure. See KODAK Publication K-4, for more information on performing safelight tests.

Storage

Keep the unexposed film and processed film in a cool, dry place at 70°F (21°C) or below and at a controlled humidity of approximately 50% RH. Process film as soon as possible after exposure.

Exposure

Relative Exposure Indexes
These indexes are provided primarily as indicators of the relative speed of this film when compared with other Kodak graphics films.

Pulsed-Xenon, Tungsten, or Quartz-Iodine Sources

System	Lith Developers	Rapid Access Developers
ISO/ASA	3.2	2.5
DIN	5.6	4.8

The pulsed-xenon value indicates the film's relative speed to pulsed-xenon illumination as measured by a light integrator. Index numbers for the other light sources apply for incident-light meters directly and for reflected-light meters used with the KODAK Gray Card (18% gray side, KODAK Publication R-27), at the copyboard. A matte white card will serve, in which case expose for 5 times the calculated exposure time.

Indexes are for lenses focused at infinity. For same-size (1:1) reproduction, give 4 times the indicated exposure.

An increase of one camera stop is indicated in the ISO/ASA system by doubling the index number, and in the DIN system by increasing the number by three.

OPTI-COPY IMPOSER Camera
To hold optimum dot size desired, expose these films to-the-emulsion or through-the-base using either blue or green exposing light sources as follows:

		Typical Exposure (seconds)	
Reproduction Size	**Source**	**To Emulsion**	**To Base**
Same (1:1)	Blue	3 to 4	6 to 7
	Green	5 to 6	8 to 10

For other sizes, adjust the basic 1:1 exposure according to the manufacturer's instructions.

Projection Exposures

Process Camera -- Pulsed-Xenon Source

To Emulsion	To Base
19 to 38 seconds, f/16	29 to 57 seconds, f/16

This is a trial exposure range for a same-size (1:1) line reproduction using two 1500-watt pulsed-xenon lamps at 3 feet (0.9 metres) from the copyboard.

Process Camera -- Quartz-Iodine Source

To Emulsion	To Base
38 to 78 seconds, f/16	60 to 120 seconds, f/16

This is a trial exposure range for a same-size (1:1) line reproduction using four 500-watt quartz-iodine lamps at 3 feet (0.9 metres) from the copyboard.

Tungsten Enlarger

25 to 50 seconds, f/4.5[1]

[1]The indicated times are for exposures to the emulsion. Increase by 50% for exposures through the base.

This is a trial exposure range for a 15X line reproduction using a condenser-type enlarger with a 150-watt No. 212 bulb at 0.4 footcandle at the easel.

Note: These exposures are based on using lith-type developers. Increase exposure by approximately 50% for rapid-access developers.

Note: Contact the manufacturer of high intensity ultraviolet lamps for safety information pertaining to ultraviolet radiation and ventilation requirements due to ozone generation.

Processing

Notice: Observe precautionary information on product labels and on the Material Safety Data Sheets.

Note: Contamination of the developer with small amounts of fixer may result in speed or density loss.

MECHANIZED PROCESSING -
The recommended starting point for optimum results using KODAK RA 2000 Developer and Replenisher (1:4) is 20 to 40 seconds at 90 to 100°F (32 to 38°C).

Use a fixer such as KODAK 3000 Fixer and Replenisher.

As a starting point, do not add hardener to the fixer. However, if abrasion or any other transport problems occur in processing, add 1 oz of KODAK 3000 Fixer Part B (hardener) per working-strength gallon of fixer. Add Part B following recommended instructions (slowly and mixing throughly).

Kodak Polychrome Graphics
Norwalk, CT 06850
USA

End of Instruction Sheet

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1) Support

Dimensionally stable support:

KD4	4-mil (0.004-in., 0.10 mm)	ESTAR Base
KD7	7-mil (0.007-in., 0.18 mm)	ESTAR Thick Base
KDM4	4-mil (0.004-in., 0.10 mm)	ESTAR Base, with matte
KDM7	7-mil (0.007-in., 0.18 mm)	ESTAR Thick Base,with matte

2) Dimensional Stability

Dimensional stability is an all-inclusive term. In photography, it applies to size changes caused by changes in humidity and in temperature, and by processing and aging. The absence of solvent in ESTAR Base is one of the reasons why ESTAR Base films show excellent dimensional stability. The dimensional properties of ESTAR Base may vary slightly in different directions within a sheet; the differences that may exist, however, are not always equal in both the length and width directions.

Differences in size change between length and width should be within 10 percent of each other.

Thermal Coefficient of Linear Expansion:

Unprocessed or processed	0.001% per degree F

Humidity Coefficient of Linear Expansion:

1573/2573:	
Unprocessed	0.0012 % per % RH
Processed	0.0011 % per % RH
4573/7573:	
Unprocessed	0.0012 % per % RH
Processed	0.0011 % per % RH

Processing Dimensional Change:
Dependent upon drying conditions.

3) Graphs[1]

Characteristic

A) KD4, KD7, KODALITH Blender Concentrates (12-90)
B) KDM4, KDM7, KODALITH Blender Concentrates (12-90)
C) KD4, KD7, KODAK ULTRATEC Developer (12-90)
D) KDM4, KDM7, KODAK ULTRATEC Developer (12-90)

Spectral Sensitivity

E) KODALITH Blender Concentrates (12-90)

The products mentioned in this document may not all be available in all regions or countries. If you have questions or need assistance, contact your local Kodak Polychrome Graphics representative or visit our website: www.kpgraphics.com.

The contents of this publication are subject to change without notice.

Kodak Polychrome Graphics
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End of Data Sheet

[1]NOTICE: While the data presented are typical of production coatings, they do not represent standards that must be met by Kodak Polychrome Graphics. Varying storage, exposure, and processing conditions will affect results. The company reserves the right to change and improve product characteristics at any time.