

The curves and data in this publication represent product tested under the conditions of exposure and processing specified. They are representative of production coatings and therefore do not apply to a particular roll of film. They should not be construed as representing standards or specifications which must be met by Kodak Limited, as the Company reserves the right to change or improve product characteristics at any time.

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EASTMAN COLOUR REVERSAL INTERMEDIATE FILM



General properties

This film is designed for making duplicate negatives from camera negatives or duplicate negatives in one printing stage, instead of the two stages required when using EASTMAN Colour Intermediate Film, 5253/7253. The elimination of one stage in the preparation of either first or second generation duplicate negatives will improve laboratory efficiency as well as leading to improvements in sharpness, graininess, tonal scale, and colour purity in the final print. The emulsion layers in the film are designed to give the unit printing contrast required for making colour duplicate negatives. Two of the incorporated dye couplers are themselves coloured and serve to produce automatic colour correcting masks which give improved colour rendition in the duplicate print. Duplicates made from this film may be intercut with original footage.

Colour balance

EASTMAN Colour Reversal Intermediate Film 5249/7249 is colour balanced to allow printing by tungsten quality illumination, with suitable filters in the light beam or, in the case of additive type printers, by adjustment of the intensities of the blue, green and red components.

Filters

In order to preserve the proper contrast relationships in the film it is necessary to closely control the amount of energy at both ends of the visible spectrum, during printing. For absorption of the ultra-violet a KODAK 'Wratten' Filter No. 2E should be used. For the infra-red an efficient heat absorbing glass, such as the Chance-Pilkington H.A.3, should also be used.

Exposure and printing recommendations

To maintain sharpness, it is recommended that EASTMAN Colour Reversal Intermediate Film should be exposed in an optical printer. For proper orientation of the images, the original must be placed in the projector with its base toward the lens and the Reversal Intermediate film must be placed in the camera with its emulsion toward the lens.

The speed of this film is about six times (0.8 logE) that of EASTMAN Colour Intermediate Film, 5253/7253. Best results are obtained with an exposure that will keep the picture densities on the straight line portion of the characteristic curve as determined by sensitometric tests.

The colour grading suitable for a direct print from the original on to EASTMAN Colour Print Film 5381/7381, can also be used when exposing 5249/7249 film. The resulting duplicate negatives should then require a minimum of scene-to-scene adjustments.

Satisfactory duplicate negatives have been made on an Acme Optical Step Printer operated at 40 feet per minute and employing a 750 watt tungsten lamp with diffuser operated at 100 volts. A lens aperture of $f5.6$ and a shutter opening of 170 degrees were used. The filter pack was as follows :

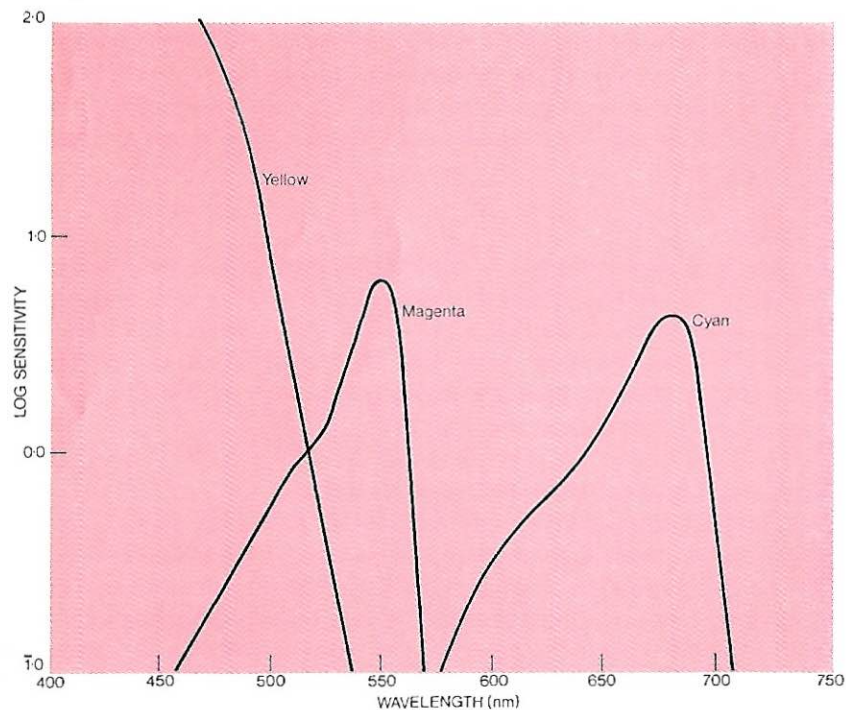
Heat Absorbing Glass Chance-Pilkington H.A.3

KODAK Colour Compensating Filter CC 60 cyan + CC 10 blue.

KODAK 'Wratten' Filter No. 2E

KODAK 'Wratten' Filter No. 96 ND 0.6

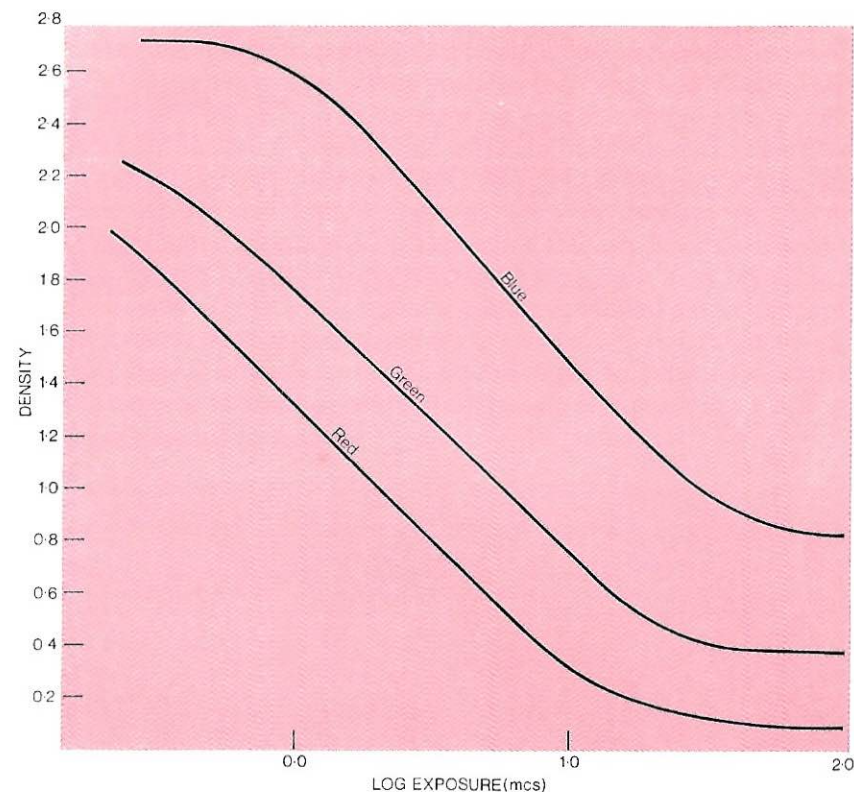
Spectral Sensitivity



Sensitivity=reciprocal of exposure (ergs/cm²) required to produce a gross density of 1.0 above fog.

Characteristic Curve

Exposed to tungsten light (3200 K). Developed in Process CRI-1.



Resolving Power*

Test-object contrast	1.6:1	1000:1
Lines/mm	50	100
Development	Process CRI-1	

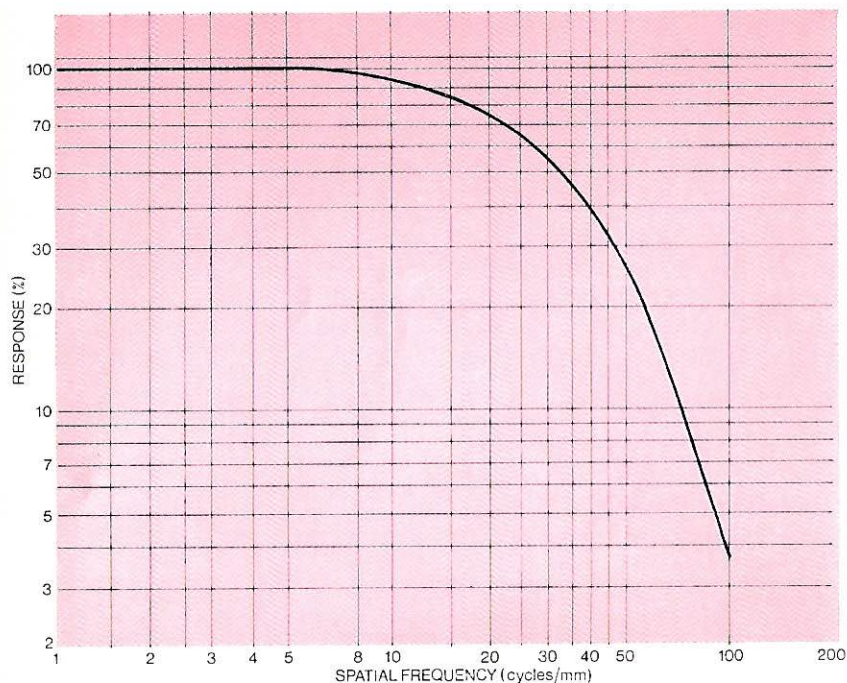
*These values were determined as described in "A Simple Camera for the Measurement of Photographic Resolving Power", by J. H. Altman, Phot. Science and Eng., Vol 5, No. 1, pp. 17-20, Jan.-Feb., 1961.

Modulation-transfer curve

Film exposed to white light and developed in Process CRI-1. The modulation-transfer characteristics (formerly called sine-wave response) of a film indicate the effects that diffusion of light within the emulsion will cause on the micro-structure of the image.

To obtain these data, test patterns with a sinusoidal variation in illuminance in one direction are exposed to on the film. The film is exposed to several such patterns, each having a different number of cycles per millimetre. After development, the photographic image is scanned in a micro-densitometer. The modulation-transfer factor of the film at each of the test-object frequencies is calculated from the micro-densitometer trace, and is plotted as a function of the frequency to give a modulation-transfer curve.

By multiplication of ordinates of the curve, the modulation-transfer data can be combined with similar data for the optical system with which it will be used, to predict the final image-detail characteristics



Reciprocity

Between exposure times of 1/100 and 1/5 second, no exposure adjustment or filter correction is necessary.

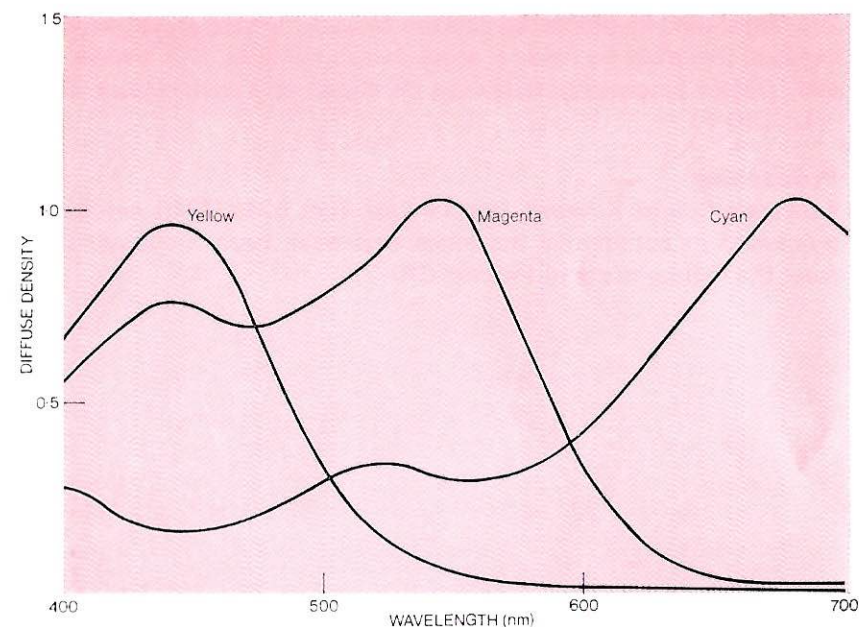
Exposure times greater than 1/5 second are not recommended because of contrast mismatch.

RMS Granularity*: 6

Developed in Process CRI-1. Measured at a net density of 1.0.

*Root-mean-square (RMS) granularity values represent 1000 times the standard deviation in density produced by the granular structure of the material when a uniformly exposed and developed sample is scanned by a densitometer having a circular scanning aperture 48μ in diameter and an optical system aperture of $f/2.0$ ($12\times$ magnification). The number indicates the magnitude of the impression of graininess which would be produced if the sample were examined visually. From the limited data available it would appear that a difference of about 6 per cent in the RMS granularity number would correspond to a just noticeable difference in the visual impression of graininess.

Spectral Dye Density



Base

Safety base with removable jet anti-halation backing. Approximate thickness 0.005 inch (0.13mm).

Safelight

This film should be handled in total darkness until after the first stop bath. Normal room lighting can then be used for the remaining processing steps. If illumination is required during printing or first development, a lamp with a KODAK Safelight Filter, No. 3, can be used if the light is not allowed to shine directly on to the film.

Storage of film before exposure

For periods of storage up to six months, the temperature should not exceed 13°C (55°F). The lower the temperature, the slower will be the rate of change in sensitometric properties during ageing. If films are to be kept for longer periods, the temperature should be kept lower than 13°C (55°F).

When the film is removed from storage, allow ample time for it to reach equilibrium with the darkroom conditions before the tape is removed from the can. This will prevent condensation of atmospheric moisture on to the cold film.

Storage of film after exposure

The film should be processed as soon as possible after exposure. If exposed film must be held for several days (such as over a weekend) before processing, it should be stored at a temperature of —18°C(0°F).

Processing

EASTMAN Colour Reversal Intermediate Film 5249/7249 can be processed in continuous machines that have been modified to meet the requirements of Process CRI-1.

Roll lengths, Cores, Perforations and Windings 35 mm Rolls

Roll lengths	Core or Camera Spool	Perforation Type	Emulsion In or Out
305 metres	2 inch Type U Core	BH-1866	In
305 metres	2 inch Type U Core	BH-1866	Out
610 metres	3 inch Type K Core	BH-1866	Out

16 mm Rolls

Roll lengths	Core or Camera Spool	Perforation Types		
		2R-2994	2R-1497	2R-1664
366 metres	3 inch Type Z Core	●	*●	*●

*Available to special order only