

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION R 421

METHOD FOR INDICATING THE STABILITY OF THE IMAGES
OF PROCESSED BLACK-AND-WHITE FILMS, PLATES AND PAPERS

1st EDITION

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BRIEF HISTORY

The ISO Recommendation R 421, *Method for Indicating the Stability of the Images of Processed Black-and-White Films, Plates and Papers*, was drawn up by Technical Committee ISO/TC 42, *Photography*, the Secretariat of which is held by the American Standards Association, Inc. (ASA).

Work on this question by the Technical Committee began in 1956 and led, in 1958, to the adoption of a Draft ISO Recommendation.

In August 1961, this Draft ISO Recommendation (No. 396) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Belgium	Germany	Romania
Brazil	Italy	Sweden
Canada	Japan	Switzerland
Chile	Netherlands	United Kingdom
France	New Zealand	U.S.A.
		U.S.S.R.

No Member Body opposed the approval of the Draft.

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in March 1965, to accept it as an ISO RECOMMENDATION.

METHOD FOR INDICATING THE STABILITY OF THE IMAGES OF PROCESSED BLACK-AND-WHITE FILMS, PLATES AND PAPERS

1. SCOPE

1.1 General scope

This ISO Recommendation specifies test methods for indicating the relative stability of the images of processed films, plates and papers, as conditioned by the internal factors resulting from processing. It applies only to processed photographic materials containing silver particles in an organic colloid layer, and not to dye images, tinted, toned or intensified photographs.

1.2 Purpose of the three test methods

The scope of the three test methods given is as follows:

Test	Effect
Test for effect of thiosulphate (hyposulphite) (see clause 3.1)	Fading or darkening due to chemical reaction of residues of thiosulphate or other treating agents
Test for light stability (see clause 3.2)	Darkening due to action of light on residual silver compounds
Test for effect of silver compounds (see clause 3.3)	Discoloration due to chemical action on residual silver compounds.

Appropriate criteria are given for archival and non-archival cases respectively. All three tests are necessary to characterize image stability, but any one test may be useful for a particular purpose.

NOTE.—The qualitative criteria for archival and non-archival cases given in the methods of this ISO Recommendation are not specifications *per se* for materials tested in the respective cases.

2. GENERAL

2.1 Factors affecting stability

Deterioration of the image of processed photographic materials is controlled by factors which may be classified as internal and external.

- 2.1.1

Internal factors. The internal factors determine the stability and are the subject of the test methods. They include the state of division of the silver, the form of the image (for example, narrow lines or small spots of low density in a field of high density, or the converse), and a group of factors governed by the processing treatment, the presence of protective substances, the content of uncombined fixing or “stabilizing” agents, such as the thiosulphates, the acidity and the residual silver compounds in the processed material. Instability of the base or other layers may be an internal factor in so far as decomposition in any of them may yield products which stain or attack any part of the image.