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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 18444-2025

Replacing GB/T 18444-2001

**Imaging materials - Processed safety photographic films -
Storage practices
(English Translation)**

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Table of Contents

Preface	
Introduction	
1 Scope	
2 Normative references	
3 Terms and Definitions	
4 Film packaging	
4.1 Requirement	
4.2 Roll Film	
4.3 Loose sheets and slides	
5 Storage equipment	
6 Storage Room	
6.1 Medium-term storage room	
6.2 Long-term storage room	
7 Environmental Conditions	
7.1 Humidity and temperature range	
7.2 Environmental control requirements	
7.3 Air Purity	
7.4 Light	
8 Fireproof Storage	
9 Film identification, processing and inspection	
9.1 Identification	
9.2 Processing	
9.3 Inspection	
Appendix A (Informative) The Difference Between Storage Copy and Working Copy	
Appendix B (Informative) Advantages and Disadvantages of Protective (Sealed) Packaging	
Appendix C (Informative) Entrained Air and Gaseous Impurities	
Appendix D (Informative) Storage Humidity	
Appendix E (Informative) Storage Temperature	
Appendix F (Informative) Relationship between temperature and relative humidity	
Appendix G (Informative) Microenvironment	
Appendix H (Informative) Silver Image Deterioration	

Appendix I (Informative) Fire Protection

Reference

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GB/T 18444-2001 "Storage of processed photographic films". Compared with GB/T 18444-2001, in addition to the integration and editorial changes, the main technical changes are as follows.

- a) The term and definition of "archival medium" (see 3.1 of the 2001 edition) have been deleted, and the terms "macro-environment" and "micro-environment" have been added and definitions (see 3.6, 3.8), and changed the definitions of the terms "long-term storage conditions", "expected life", and "safety photo film" (see 3.2, 3.4, 3.11, 3.3, 3.5, 3.10 of the 2001 edition);
- b) Added the requirement that "safety photographic films shall comply with the flammability specifications specified in ISO 18906" (see 4.1);
- c) Added types of plastic packaging suitable for medium-term storage (see 4.3.1);
- d) Added recommended requirements for the construction of storage cabinets (see Chapter 5);
- e) Added "Recommended temperature and relative humidity" and modified Table 1 (see 7.1.1, Table 1 of the 2001 edition);
- f) Added the requirements for the maximum relative humidity of the medium-term storage environment and the requirements for temperature periodic changes within 24 hours (see 7.1.2);
- g) Added general rules for long-term storage environment (see 7.1.3.1);
- h) Added methods for controlling the macro-environment and micro-environment (see 7.1.3.2);
- i) The storage and cleaning methods of films have been changed (see 9.2, 9.2 of the 2001 edition).

This document is equivalent to ISO 18911:2010 "Storage of processed safety photographic films for imaging materials".

Introduction

Photographic film is an important recording and graphic material, and it is recognized that it needs to be protected by the law, science, industry, art and historical value.

Archives, museums, libraries, governments, businesses and universities all place great importance on preserving these photographic records.

to ensure that they have the longest possible lifespan (see references [9][10][11]).

Many factors can cause film to age, and these factors can be divided into the following three categories.

a) Properties of photographic film the stability of photographic film records depends on the physical and chemical properties of the film. Only safe photographic film is suitable for storage.

Specifications for photographic films are given in ISO 18906.

For conservation purposes, processed photographic films are classified according to their expected life span, i.e. LE designations, which are specified in the relevant international standards.

The term "archival" is no longer used in international standards for imaging materials to indicate long life or stability.

It is considered to include everything from "permanent storage of information" (which is not achievable) to "temporary storage but active use of information".

The multiple meanings of "interest".

In order to best preserve the photographic information, use films with high LE numbers and store them under long-term storage conditions.

The film material is a polyester-based silver-gelatin type film conforming to ISO 18901. However, this document also applies to processed Color film, diazo film (see ISO 18905), microfoam film (see ISO 18912) and thermally developed silver (see ISO 18919) film. Although these types of films may not have high LE ratings, many of them have excellent preservation properties.

b) Photographic processing of film ISO 18901 specifies the residual thiosulfate and residual silver compounds for silver-gelatin black and white films according to different LE levels.

Highest content.

ISO 18905 specifies development tests specific to diazo films. ISO 18912 covers development tests specific to microfoam films and There are two aspects of the residual diazonium salt test.

c) Storage conditions the storage conditions for safety photographic film records are of paramount importance for the preservation of the film and are the subject of this document (see also ISO 18906).

This environmental condition also applies to nitrate-based films, but it is best to store them in a separate storage area with appropriate fire protection facilities.

area (see reference [4]).

The important factors affecting the preservation of processed film are humidity, temperature and air pollutants, as well as fire, water, light, fungal growth, insects, Microbial attack, damage from contact with certain solid, liquid or gaseous chemicals, physical damage during handling, and other types of Mutual damage caused by direct contact of films.

The temperature, humidity, atmospheric pollutants or their changes beyond the recommended range are allowed without causing harmful effects.

The degree of exposure will depend on the duration of exposure, the biological conditions favorable for fungal growth, and the degree of contact of the atmosphere with the emulsion and support.

Exposure to high temperatures, especially high humidity, can cause degradation of the film support and emulsion (see references [13][14] [15]), films based on cellulose esters degrade faster than films based on polyesters.

There are two levels of storage conditions.

- 1) mid-term;
- 2) Long term.

Medium-term storage conditions can be used for films that require information preservation for at least 10 years, and long-term storage conditions can be used for most newly processed films.

However, long-term storage conditions can extend the life of all films, regardless of type, production, or Since the installation and maintenance costs of each level of storage facilities are different, the degree of storage protection provided is also different.

It will be different.

When choosing storage conditions, it is usually necessary to consider the limitations of location and storage costs.

It is recognized that many facilities may not achieve the low humidity and low temperature levels specified in this document due to reasons of building structure. Such deviations from the specified conditions in such cases, maintaining low humidity and temperature may still be beneficial.