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Storage of Motion-Picture Films



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Introduction

It is impossible to estimate the value of the motion-picture films that have been produced during the life of this industry. These films are a rich resource representing both historical events and a unique art form. When one realizes that a major portion of motion pictures and television programs produced in this century has been lost or destroyed already because of improper storage, the importance and urgency of preserving those still existing are underscored.

The conversion of motion pictures and television programs to color films has raised concerns about the long-term stability of the dye images. Attention to this question has contributed to a general renewal of interest in the preservation of all motion pictures, both black-and-white and color.

Long-term preservation of almost any human artifact is a challenging and costly effort. There are no simple, inexpensive methods that are satisfactory for this purpose. Furthermore, extended-term storage, particularly, implies that the preserved artifact is rarely removed from storage for examination. Proper storage of motion-picture films requires that a sufficient number of working copies be available at the time the original films are put into storage.

Proper storage is not a new subject and a variety of documents on the preservation of motion-picture films already exists. These include ANSI and ISO standards, an EBU technical bulletin, a report of the International Preservation Commission of FIAF, several SMPTE, BKSTS, and IS&T articles, and a tutorial report (see annex B). Nevertheless, there is still a recognized need for guidelines for proper film storage and an SMPTE practice to fill this need. Basic recommendations for the storage of all types of processed safety photographic film are contained in ANSI/PIMA IT9.11. The procedures discussed in this practice are an expansion or restatement of that document.

1 Scope

This practice defines terms, classifications, and conditions for the storage of motion-picture materials.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this practice. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this practice are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below.

ANSI/PIMA IT9.11-1998, Imaging Media — Processed Safety Photographic Films — Storage

3 Definitions

3.1 archival medium: A recording material that can be expected to retain information forever so that it can be retrieved without significant loss when properly stored. However, there is no such material and it is not a term to be used in American National Standards material or system specifications.

3.2 duplicate: A reproduction of a master, retaining the same polarity and size.

3.3 extended term storage conditions: Storage conditions suitable for the preservation of recorded information on the majority of freshly-processed photographic films for 500 years.

3.4 film enclosure: Any item in close or direct contact with the film, such as reels, cores, spools, cassettes, magazines, cartridges, can containers, envelopes, bags, and cartons.

3.5 film vault: A room or area designed for film storage and separated from temporary storage facilities, offices, or work areas. Preferably, the vault shall have air purity, and temperature and humidity controls.

3.6 fire-protective storage: Facilities designed to protect records against excessive temperatures, water, and other firefighting agents, and steam developed by insulation of safes or caused by the extinguishing of fires and/or collapsing structures.

3.7 LE designation: A rating for the life expectancy (LE) of recording materials and associated retrieval systems. The number following the LE symbol is a prediction of the minimum life expectancy in years for which information can be retrieved without significant loss when stored at 21°C and 50% RH; e.g., LE-100 indicates that information can be retrieved after at least 100 years storage.

3.8 life expectancy (LE): The length of time that information is predicted to be acceptable in a system at 21°C and 50% RH.

3.9 medium-term storage conditions: Storage conditions suitable for the preservation of recorded information for a minimum of 10 years.

3.10 safety photographic film: Film that meets the specifications with respect to hazards from fire as defined in ANSI/NAPM IT9.6.

3.11 storage housing: A physical structure supporting the film enclosures and may consist of drawers, racks, shelves, or cabinets.

4 Storage and handling

In order for motion-picture film to be protected, it must be properly stored and handled throughout its life. For convenience, the life cycle has been divided into three sections: prior to processing, after processing, and in archives.

Although processing is not covered in this practice, it is imperative that black-and-white films be properly washed to prevent stains, etc., and that color films be properly washed and stabilized to minimize stains, dye fading, etc. The manufacturer's processing recommendations should be carefully followed for both black-and-white and color films.

Specifications for the stability of black-and-white silver-gelatin imaging media (film) are stated in ANSI/NAPM IT9.1.