

## **SECTION 3: CARE OF MODERN MEDIA**

Since the middle of the nineteenth century a great range of new media has been used to produce and hold records, from the emergence of photography, to later twentieth century magnetic media, to contemporary digital storage. All of these non-traditional formats are found in UK archives, and each has its own characteristics and requirements.

They present a particular challenge because most of these formats are constructed from plastic materials, many of which are liable to shrink or decay over time and cause distortions that interfere with or prevent access to the information they carry. They are usually composite, with each component liable to react differently to environmental conditions and handling and thereby suffer loss of integrity.

The British Standard *Conservation and care of archive and library collections*, BS 4971:2017, notes that because they are prone to decay over a shorter time than parchment or good quality paper, 'More precise control over moisture, RH and temperature is needed for photographic and machine-readable media than for traditional archive materials'. The Standard gives detailed advice on the care of photographs, films and the like and should be consulted if your archive holdings include a significant quantity of such material.

The first stage is to identify exactly what you have. Photographic material comes in a great range of types, while many comparatively recent magnetic media and computer storage devices and formats are now obsolete and seldom encountered. Try to find as much information as you can about the types of material you have.

Ensure the work and storage areas are clean, and that there is no food or drink nearby. No contact should be allowed with liquids, dust, or smoke, and there should be no exposure to direct sunlight. When handling photographic material make sure you have clean hands and wear microfibre or nitrile gloves. Do not mark photographs, even on the reverse, and avoid use of paper clips, rubber bands, self-adhesive tape or glue.

### **PHOTOGRAPHIC MATERIAL**

#### **Packaging**

Photographs, photographic slides and negatives should be packaged in suitable archival quality polyester, polyethylene or polypropylene sleeves or containers. They should then be placed within archival quality boxes.

Archival quality (alkaline buffered) paper enclosures are recommended for labelling items in most photographic formats. Such enclosures can also be used as a protective layer for prints that have been mounted onto poor quality paper or card and for deteriorated film-base negatives. However, buffered enclosures are not

suitable for contemporary colour materials, where neutral (pH 7) paper is recommended.

### **Environmental conditions**

It is recommended that items in the following formats are be stored in an environment with an annual average temperature below 18°C, with a minimum of 5°C and not exceeding 20°C:

- black and white polyester base moving image film, photographic sheet film negatives and transparencies;
- microfiche and microfilm;
- black and white photographic glass plates;
- black and white collodion ferrotype sheets and daguerreotypes;
- black and white photographic paper prints of all types;
- black and white ink-jet prints.

The following materials are particularly unstable and ideally require specialist storage. Advice should be sought from a qualified conservator.

- colour and black and white cellulose acetate moving image film, photographic negatives and transparencies;
- cellulose nitrate photographic sheet film and moving image film;
- colour photographic paper prints of all types (including ink-jet prints).

Similarly, when dealing with unidentified or unstable photographic and audio-visual media specialist advice should be sought from a qualified conservator. This is particularly important for cellulose nitrate film, which can explode and is not readily extinguished.

### **MAGNETIC MEDIA and DIGITAL STORAGE DEVICES**

Since the appearance of electronic data in the 1960s, there have been a many physical storage formats; reel-to-reel tape, cassette tapes, floppy disks (in a variety of formats), CDs and DVDS, flash drives, and others. Each of these media is differently composed and requires appropriate handling.

Archives in digital form need to be backed up onto a secure server and wherever possible duplicate copies made and stored (in a separate location) on most stable medium available. At the current time, at least one copy on an external hard-drive is recommended, while 'Cloud' storage with a reputable and established provider also provides off-site back-up. The originals and copies should be regularly checked and

if necessary migrated into new software and/or hardware. Advice should be sought on digital preservation.

## **Packaging**

Magnetic media should always be stored vertically in archival quality cases. Rigid inert plastic cases should always be used for optical disks (CDs and DVDs), as opposed to paper or card sleeves, to give greater physical protection. All items should be protected from potential sources of magnetic fields, including electrical equipment.

Digital storage devices should be kept in their containers when not in use, and should not be left in computer drives after use, as this can cause both heat and mechanical damage.

## **Environmental conditions**

The following material should be kept in an environment with an annual average temperature below 18°C, with a minimum of 5°C and not exceeding 20°C:

- Optical discs (CDs and DVDs).
- Magnetic media cassettes (data, audio, video)
- Gramophone discs (acetate, shellac, vinyl).

The relative humidity should be no higher than 50%, with cassettes stored at no higher than 30% RH.

Advice on other specialist formats should be taken from a qualified conservator and ideally it will require specialist storage.

## **USE AND DISPLAY**

All photographic material and items in machine-readable formats are at risk of degrading faster if they are regularly viewed or played in a normal reading room environment. For this reason, wherever possible surrogate copies should be made as the access versions, and the originals kept in their storage environment. It is strongly advised to make access copies of any material that is particularly important, valuable, or likely to be heavily used.

Further advice is available within the relevant British Standard, BS 4971.