AS 3636.2—1989
BS 4783:Part 2:1988

Australian Standard®

Data storage and transfer media—
Storage, transportation and
maintenance of magnetic media for
use in data processing and
information storage

Part 2: Magnetic tape on spools

[BSI title: Storage, transportation and maintenance of magnetic
media for use in data processing and information storage,
Part 2: Magnetic tape on spools]

This Australian Standard was prepared by Committee IT/10, Information Systems Equipment. It was approved on behalf of the Council of Standards Australia on 8 May 1989 and published on 13 October 1989.

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The following interests are represented on Committee IT/10:

Australian Information Industries Association

CSIRO Institute of Information and Communication Technologies

Data media manufacturers

Interface Developers

La Trobe University

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Data storage and transfer media— Storage, transportation and maintenance of magnetic media for use in data processing and information storage

Part 2: Magnetic tape on spools

First published as AS 3636.2—1989.

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PREFACE

This Standard was prepared by the Standards Australia Committee on Information Systems Equipment. It is identical with and has been reproduced from British Standards Institution's Standard BS 4783: Part 2: 1988, *Storage, transportation and maintenance of magnetic media for use in data processing and information storage* Part 2: *Magnetic tape on spools.*

The use of high-grade materials and modern production techniques, that include rigorous testing and inspection, ensures that storage media are manufactured to exacting standards. To continue to benefit from the care taken during manufacture, and to ensure optimum performance from a product during its life, the user should exercise care as detailed in this Standard.

For the purpose of this Australian Standard, the text of the BSI Standard should be modified as follows:

Terminology: Replace 'BS 4783' with 'AS 3636' wherever it appears.

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CONTENTS

Data storage and transfer media—Storage, transportation and maintenance of magnetic media for use in data processing and information storage
Part 2: Magnetic tape on spools

1 Scope

This Part of BS 4783 provides recommendations on the care and maintenance of magnetic tapes on open spools. It includes recommendations for storage, handling, transportation, inspection, cleaning, maintenance and fault identification.

The photographs that comprise figure 2 give some examples of tape conditions that may lead to poor performance or loss of data or both.

2 Definitions

For the purposes of this Part of BS 4783, the following definitions apply.

2.1 accessory. A container used to protect the reel, such as an autoload cartridge, a tape canister or a tape seal.

2.2 base film. The substrate material of the tape that supports the coating.

2.3 beginning of tape (BOT). A reflective marker placed on the non-recording side of the tape to indicate the beginning of the permissible recording area.

2.4 cinching. Tape folds between layers of tape in a tape pack resulting from longitudinal slippage caused by uneven tension when the roll is accelerated or decelerated.

2.5 coating. The recording layer of a tape, consisting of oxide particles held in a binder that is applied to the base film.

2.6 contamination. Foreign deposits that may lead to degradation of performance.

2.7 edge damage. Defects at the edge of the tape.

2.8 edge lip. A deformation in the edge of the base film.

2.9 end retainer. A component placed over the end of the tape to prevent loose turns of tape forming during transportation.

2.10 end of tape (EOT). A reflective marker placed on the non-recording side of the tape to indicate the end of the permissible recording area.

2.11 error. A failure to read correctly a bit of information.

2.12 extreme environment. Environmental conditions outside the limits quoted in this Part of BS 4783.

2.13 library. A storage area for media and associated equipment.

2.14 magnetic tape. Tape that will accept and retain the magnetic signals intended for input, output and storage purposes on computer and associated equipment.

2.15 permanent error. An error that remains after retries to read a particular area of tape.

2.16 reel. A spool containing tape.

2.17 retries. A number of reread attempts determined by the type of system.

2.18 spool. A flanged hub, made of metal, glass or plastic, on which tape is to be wound.

2.19 tape cleaner. A device designed to clean both surfaces of the tape.

2.20 tape evaluator. A device that evaluates the physical and magnetic quality of the tape.

2.21 tape pack. The form taken by the tape wound on the spool.

2.22 tape transport. A mechanism that extracts tape from a storage device, moves it across magnetic heads at a controlled speed and then feeds it into another storage device.

2.23 tape wind. The uniformity of layer-to-layer positioning and tension of a tape when wound clockwise onto a spool when viewed from the front flange with the coating facing the hub.

2.24 transient error. An error that does not remain after retries to read a particular area of tape.

2.25 write enable ring. A plastic ring placed in a groove in the rear flange of the spool to enable the tape to be recorded.

3 Tape library

3.1 General

Tapes should be stored in an accessory and their use monitored by means of a central facility typically referred to as a tape library.

3.2 Personnel

Personnel should be trained in their responsibility for the condition, care and handling of reels in order to improve and maintain the proper functioning of any library. Ideally, an individual should be designated as the Librarian with overall responsibility for day-to-day maintenance and control.

3.3 Equipment

The maintenance equipment available at a computer installation will inevitably be governed by the library size and comparative cost effectiveness. Site policy should clearly indicate who is responsible for the provision of resources and equipment (such as tape evaluators and cleaners, and consumables (cleaning fluids and materials)), e.g. the equipment engineers or operational staff.

3.4 Location

The library should be sited away from electrical equipment and dust-producing peripherals such as line printers, paper tape or punched card machines.

The library should be adjacent to the computer room with the same or very similar environmental conditions.

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