



Designation: E 1453 – 93 (Reapproved 2002)^{ε1}

Standard Guide for Storage of Media that Contains Analog or Digital Radioscopic Data¹

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^{ε1} NOTE—Made editorial corrections to ANSI standards in Referenced Documents and 6.4 in December 2002.

1. Scope

1.1 This guide may be used for the control and maintenance of recorded and unrecorded magnetic and optical media of analog or digital electronic data from industrial radioscopy.

1.2 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.* For specific precautionary statements, see Section 6.

2. Referenced Documents

2.1 ASTM Standards:

E 1000 Guide for Radioscopy²

E 1255 Practice for Radioscopy²

2.2 ANSI Standards:³

INCITS 40 Unrecorded Magnetic Tape

INCITS 39 Recorded Magnetic Tape

INCITS 125 Two-Sided, Double Density Disk

INCITS 46 Six-Disk Pack

INCITS 48 Magnetic Tape Cassettes

2.3 NIST Standard:

NBS Handbook, NBS SP 500.101⁴

3. Significance and Use

3.1 The provisions of this guide are intended to control and maintain the quality of recorded industrial electronic data from radioscopy and unrecorded magnetic and optical media only, and are not intended to control the acceptability of the

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² *Annual Book of ASTM Standards*, Vol 03.03.

³ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

⁴ Available from National Institute of Standards and Technology (NIST), Gaithersburg, MD 20899.

materials or products examined. It is further intended that this guide be used as an adjunct to Guide E 1000 and Practice E 1255.

3.2 The necessity for applying specific control procedures such as those described in this guide is dependent to a certain extent, on the degree to which the user adheres to good recording and storage practices as a matter of routine procedure.

4. Unrecorded Media Storage

4.1 Un-Opened Containers:

4.1.1 *Storage Recommendations*—Any media in containers sealed by the manufacturer and not opened should be stored as shipped, whenever possible, to avoid container damage and possible media damage. Storage temperature should be $60^{\circ} \pm 20^{\circ}\text{F}$ ($16 \pm 11^{\circ}\text{C}$), relative humidity range of $45 \pm 15\%$, at a pressure range of 12.5 ± 2.5 psi and a maximum magnetic field strength of 50 Oe. The optimum storage conditions are 65°F (18°C) at 40 % relative humidity, 14.7 psi and a maximum magnetic field strength of 30 Oe. Damaging stresses in the media can be produced by large temperature and humidity variations even if they remain within the specified ranges. Specific media manufacturer's recommendations should be consulted when large variations in temperature or humidity, or both, are anticipated or experienced.

4.1.2 *Higher or Lower Storage Conditions*—When temperature exceeds 90°F (32°C) or humidity exceeds 90 %, or pressure exceeds 15 psi, some unrecorded media should be used under normal existing conditions to test for degradation. If degradation is found on these samples, subsequent sampling may be done on other media to avoid unnecessary scrap. If storage temperature falls below 30°F (-1°C), media stored at these lower temperatures in unopened containers should be allowed to stabilize at a room temperature (60° to 90°F (16° to 32°C)) before opening the containers. The stabilization time will vary with the bulk of the stored media and the storage temperature. The lower the temperature and greater the bulk, the longer the time required to reach room temperature. If containers are opened too soon, condensation could cause the media to stick to whatever is touching their surfaces. If the