Designation: E1453 – 20

Standard Guide for Storage of Magnetic Tape Media that Contains Analog or Digital Radioscopic Data[1]

This standard is issued under the fixed designation E1453; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

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 *Units*—The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.* For specific precautionary statements, see Section 6.

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

E1000 Guide for Radioscopy

E1255 Practice for Radioscopy

2.2 *Datasheets:*

Environmental and Shipping Specifications for LTO Tape Cartridges[3]

Environmental and Shipping Specifications for 3592 Tape Cartridges[4]

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 materials or products examined. It is further intended that this guide be used as an adjunct to Guide E1000 and Practice E1255.

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. Such practices should follow the best-usage practices outlined by both the mechanism and media datasheets.

3.3 This guide has been updated to provide guidance on the LTO and IBM 3592 families of data storage tape formats. The LTO and 3592 family of tape formats are the only remaining actively developed data tape formats.[5]

3.4 While the above indicated media are the only active digital tape formats on the market, archives of older media, including those with analog data, remain under retention requirements. The changes made here are conservative and do not negatively impact the storage of older media formats.

3.5 The longevity in which the recorded data, either analog or digital, maintains its integrity on magnetic media varies greatly from one media to another. As such, it is considered best practice to duplicate the media at the manufacturer's suggested interval to prevent loss of the recorded data through degradation. On average, this is every five years.

4. Unrecorded Media Storage

4.1 *Un-Opened Containers:*

[1] This guide is under the jurisdiction of ASTM Committee E07 on Nondestructive Testing and is the direct responsibility of Subcommittee E07.01 on Radiology (X and Gamma) Method.

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[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] Available from the IBM website, https://www.ibm.com/support/knowledgecenter/en/STCMML8/com.ibm.storage.ts3500.doc/ipg_3584_meesi.html.

[4] Available from the IBM website, https://www.ibm.com/support/knowledgecenter/en/STCMML8/com.ibm.storage.ts3500.doc/ipg_3584_meesij.html.

[5] IBM 3592 is a trademark of IBM and has been found satisfactory for this purpose.