ISO/IEC 16382:2000-05 (E)

Information technology_- Data interchange on 12,7_mm 208-track magnetic tape cartridges_- DLT_6 format

Contents

Section 1 - General **1**

1 Scope **1**

2 Conformance **1**

2.1 Magnetic tape cartridges **1**
2.2 Generating systems **1**
2.3 Receiving systems **1**

3 Normative references **1**

4 Terms and definitions **1**

4.1 Average Signal Amplitude **1**
4.2 azimuth **2**
4.3 back surface **2**
4.4 Beginning-Of-Tape marker (BOT) **2**
4.5 block **2**
4.6 byte **2**
4.7 cartridge **2**
4.8 Cyclic Redundancy Check (CRC) character **2**
4.9 Early Warning (EW) **2**
4.10 Error-Detecting Code (EDC) **2**
4.11 End-Of-Tape marker (EOT) **2**
4.12 Entity **2**
4.13 Error-Correcting Code (ECC) **2**
4.14 Envelope **2**
4.15 Envelope size **2**
4.16 flux transition position **2**
4.17 flux transition spacing **2**
4.18 Group Record **2**
4.19 logical track **2**
4.20 magnetic tape **2**
4.21 Master Standard Reference Tape **2**
4.22 object **2**
4.23 page **2**
4.24 physical recording density **2**
4.25 physical track **2**
4.26 Record **2**
4.27 Reference Edge **2**
4.28 Reference Field **2**
4.29 Secondary Standard Reference Tape **2**
4.30 Standard Reference Amplitude (SRA) **3**
4.31 Standard Reference Current **3**
4.32 Test Recording Current **3**
4.33 Typical Field **3**

5 Conventions and notations **3**

5.1 Representation of numbers **3**
5.2 Dimensions **3**
5.3 Names **3**
5.4 Acronyms **3**

6 Environment and safety **3**

6.1 Cartridge and tape testing environment **4**
6.2 Cartridge operating environment **4**
6.3 Cartridge storage environment **4**
6.4 Safety **4**

6.4.1 Safeness **4**
6.4.2 Flammability **4**

6.5 Transportation **4**

Section 2 - Requirements for the unrecorded tape **4**

7 Mechanical and electrical requirements **4**
7.1 Material **4**
7.2 Tape length **4**
7.3 Width **4**
7.4 Total thickness **5**
7.5 Discontinuity **5**
7.6 Longitudinal curvature **5**

7.6.1 Requirement **5**
7.6.2 Procedure **5**

7.7 Out-of-Plane distortions **5**
7.8 Cupping **5**
7.9 Roughness of the coating surfaces **5**

7.9.1 Roughness of the back coating surface **5**
7.9.2 Roughness of the magnetic coating surface **5**

7.10 Coating adhesion **5**
7.11 Layer-to-layer adhesion **6**

7.11.1 Requirements **6**
7.11.2 Procedure **6**

7.12 Modulus of elasticity **7**

7.12.1 Requirement **7**
7.12.2 Procedure **7**

7.13 Flexural rigidity **7**

7.13.1 Requirement **7**
7.13.2 Procedure **7**

7.14 Tensile yield force **7**

7.14.1 Procedure **8**

7.15 Electrical resistance **8**

7.15.1 Requirement **8**
7.15.2 Procedure **8**

7.16 Inhibitor tape **8**
7.17 Abrasivity **8**

7.17.1 Requirement **8**
7.17.2 Procedure **8**

7.18 Light transmittance of the tape and the leader **9**
7.19 Coefficient of dynamic friction **9**

7.19.1 Requirements **9**
7.19.2 Procedure for the measurement of the friction between the magnetic surface and the back surface **9**
7.19.3 Procedure for the measurement of the friction between the magnetic surface or the back surface and calcium titanate ceramic **10**

8 Magnetic recording characteristics **10**

8.1 Typical Field **10**
8.2 Signal amplitude **11**
8.3 Resolution **11**
8.4 Overwrite **11**

8.4.1 Requirement **11**

8.5 Peak shift **11**

8.5.1 Requirement **11**
8.5.2 Procedure **11**

9 Tape quality **12**
9.1 Missing pulses **12**
9.1.1 Requirement **12**
9.2 Missing pulse zone **12**
9.2.1 Requirement **12**
9.3 Tape durability **12**

Section 3 - Mechanical specifications of the tape cartridge **12**

10 General **12**

10.1 Bottom side and right side **13**
10.2 Back side and left side **14**
10.3 Tape reel **14**
10.4 Tape leader **15**
10.5 Front side **16**
10.6 Operation of the cartridge **16**
10.7 Tape winding **17**
10.8 Moment of inertia **17**
10.9 Material **18**

Section 4 - Requirements for an interchanged tape **27**

11 Method of recording **27**

11.1 Physical recording density **27**
11.2 Channel bit cell length **27**

11.2.1 Average Channel bit cell length **27**
11.2.2 Long-term average Channel bit cell length **27**
11.2.3 Short-term average Channel bit cell length **27**

11.3 Flux transition spacing **27**
11.4 Read signal amplitude **27**
11.5 Azimuth **28**
11.6 Channel skew **28**

12 Tape format **28**

12.1 Reference Edge **28**
12.2 Direction of recording **28**
12.3 Tape layout **28**
12.4 Calibration and Directory Area **28**

12.4.1 Scratch Area **29**
12.4.2 Guard Area G1 **29**
12.4.3 Calibration Tracks Area **29**
12.4.4 Guard Area G2 **30**
12.4.5 Directory Area **30**
12.4.6 Guard Area G3 **30**

12.5 Data Area **30**

12.5.1 Physical tracks **31**
12.5.2 Logical tracks **32**

13 Data format **34**

13.1 Data Bytes **34**
13.2 Data Blocks **34**
13.3 Types of Blocks **34**
13.4 Entities **34**
13.5 Envelopes **34**
13.6 Block format **34**

13.6.1 Preamble **35**
13.6.2 Sync **35**
13.6.3 Data Field **35**
13.6.4 EDC **36**
13.6.5 Control Field 1 (CF1) **37**
13.6.6 Control Field 2 (CF2) **38**
13.6.7 CRC **39**
13.6.8 Postamble **39**

14 Use of blocks **39**

14.1 Data Blocks **39**
14.2 Filler Blocks **39**
14.3 End of Track Blocks (EOTR) **39**
14.4 End of Data Blocks (EOD) **40**
14.5 ECC Blocks **40**

15 Format of Entities **40**

16 Format of Envelopes **40**

17 Error handling **40**

Annexes

A - Measurement of light transmittance **41**

B - Generation of the Data Block CRCs **44**

C - ECC generation **45**

D - Generation of page CRCs **48**

E - Format of MAP entries **49**

F - Format of Control Field 1 **50**

G - Format of Control Field 2 **51**

H - Recommendations for transportation **52**

J - Inhibitor tape **53**

K - Recommendations on tape durability **54**

L - Handling guidelines **55**