

**TO:** INCITS B10.6 members  
**FROM:** Denny Warwick  
**DATE:** 4 Jan 07  
**SUBJECT:** Comments for FDIS 7811-8

**Comments for 1N1595 (FDIS 7811-8, 650 Oe mag stripe)**

Has this actually come out for balloting yet? If so, the following should also be added to a **Yes** vote with comments.

**1. Tolerance for window position (see also 1N1585 from PTB)**

Having a 650 Oe reference material will not affect the tolerance of the acceptance window assuming that it remains in the same place. The tolerance and size of the window is nearly the same as it is for hico (7811-6). Therefore, using the RM7811-2 reference card as a signal reference for evaluating 650 Oe materials will provide the same accuracy as we have established for 300 Oe historically.

In the Table 2, loco, 650 Oe, and hico materials are compared using various reference materials to show the effect on the acceptance window. Table 1 gives a brief description of each column in Table 2.

**2. Annex for test method changes**

Add a normative annex (see attachment). This will be moved to the 10373-2 at the next revision.

Remanence of the heads can reduce signal amplitude levels (5.5.2.4 allows a 5% reduction), and the note only says signal levels may be reduced but does not say it is bad. Different materials may have more or less reduction due to any head remanence.

Remanence of the write head is not specified by the test method. If this will have an effect on encoded flux transitions then additional specifications need to be added to ISO/IEC 10373-2 since this could affect test results with loco and hico materials (probably more of an issue with hico materials).

The Mag3 test device ramps current through the same range in 650 oe testing as it does for 300 oe testing. There is no possibility for differences in the remanence of the write head when 650 oe is tested compared with standard 300 oe tests.

**Table 1 Column description for Table 2**

Column	Description
A	Loco window established using the loco reference
B	650 Oe window established using the loco reference. Note the ratio of window edges compared to that in column A showing that the 650 Oe window is actually smaller as a percentage of the Ir value.
C	650 Oe window established by a 650 Oe reference material (a typical material was chosen). Multipliers were chosen so that the window was the same size and in the same place as for the loco material. The value of "250" only means that the same scale for Ir is used as in column A and B. Note that the worst case tolerance and the ratio of window edges is exactly the same as in column B
D	Hico window established by a hico reference but put on the same scale as the loco window. Note that the tolerance and ratio are nearly the same as for the 650 Oe material.
E	Hico window established by hico reference but on the hico scale. Note that the tolerance and ratio are exactly the same as in column D.

**Table 2 RM comparisons**

	A	B	C	D	E
<b>Card type evaluated</b>	<b>7811-2</b>	<b>7811-8</b>	<b>7811-8</b>	<b>7811-6</b>	<b>7811-6</b>
<b>Reference material</b>	<b>RM7811-2</b>	<b>RM7811-2</b>	<b>RM7811-8</b>	<b>RM7811-6</b>	<b>RM7811-6</b>
<b>Ir value (%)</b>	100	100	250	715	100
<b>Ir tolerance (+/-%)</b>	3	3	3	3	3
<b>Window left multiplier</b>	3.5	6.5	2.6	2.8	2.8
<b>Window right multiplier</b>	5	8	3.2	3.5	3.5
<b>Window left side min</b>	340	631	631	1942	272
<b>Window left side max</b>	361	670	670	2062	288
<b>Window right side min</b>	485	776	776	2427	340
<b>Window right side max</b>	515	824	824	2578	361
<b>Window min length</b>	125	107	107	365	51
<b>Window nominal length</b>	150	150	150	501	70
<b>Window max length</b>	176	194	194	636	89
<b>Total worst tolerance (% of window)</b>	34	58	58	54	54
<b>Ratio of window edges (right/left)</b>	1.43	1.23	1.23	1.25	1.25

## Annex A (normative)

### Test method changes

#### A.1 Introduction

This annex specifies the changes and additions to ISO/IEC 10373-2 that are required when testing 51,7 kA/m (650 Oe) materials as defined by this standard. Information is given in the form of an amendment to aid in identifying differences.

#### A.2 Test method changes

- Test methods in ISO/IEC 10373-2 are suitable for magnetic stripes with coercivities up to 60 kA/m (750 Oe). (In the first bullet point in the first paragraph of ISO/IEC 10373-2, 5.5, change 48 kA/m (600 Oe) to 60 kA/m (750 Oe)).
- RM7811-2 is used as the reference card for this standard. (After the fourth sentence of ISO/IEC 10373-2, 5.5.1, add the following sentence: "When the base standard is ISO/IEC 7811-8, use reference card type RM 7811-2.").
- There shall be no contact by write or read heads after the recording pass but before the reading pass. (Replace the first note in ISO/IEC 10373-2, 5.5.3.2 with requirement given here).
- The effective remanence of the write head shall not reduce the average signal amplitude of the reference card being used by more than 10% after 5 successive passes (after one application and removal of the maximum write current allowed prior to the 5 passes). (After the third paragraph in ISO/IEC 10373-2, 5.5.2.2 add the requirement given here).