



Moser Baer India Ltd.  
Engineering Department  
Product: 80mm DVD-RW, 2X

Document No: MBI/DVD-RW/02  
Effective: January 2007  
Version : 1.0  
Page No: 1 of 6

**PRODUCT SPECIFICATION**  
**DVD-RW 1.4GB General Purpose**  
**(1X-2X)**

**Approved By:**

**G.M (Technical)**

***Table of Contents*** ***Page***

---

1.0	PURPOSE.....	3
2.0	SCOPE.....	3
3.0	REVISION RECORD.....	3
4.0	APPLICABLE PRODUCT.....	3
5.0	ENVIRONMENTAL CONDITIONS .....	3
6.0	RAW MATERIAL DETAILS.....	5
7.0	MEDIA CHARACTERISTICS AND SPECIFICATIONS.....	5

## 1.0 PURPOSE

- 1.1 To define and document the mechanical, physical, and optical characteristics of MBI's DVD-RW, 80mm Re-writable optical disc with capacity of 1.4 GBytes in its final form as shipped to the customer.

## 2.0 SCOPE

- 2.1 This document is in conformance with 80mm DVD-RW. This specification of DVD-RW is in compliance with DVD-RW specification-version 1.1/2x. Discs manufactured with this process are designed to work from 1x to 2x recording speed.

## 3.0 REVISION RECORD

Effect Date	Item(s) No(s)	Page No	Changes made to document	Name of Requester

## 4.0 APPLICABLE PRODUCT

- 4.1 Product Description  
Mini DVD-RW 1x-2x

## 5.0 ENVIRONMENT CONDITIONS

### 5.1 For Product Testing

- |   |                   |              |
|---|-------------------|--------------|
| 1 | Temperature       | 23 ± 2 deg C |
| 2 | Relative Humidity | 45 – 55 % RH |

There should be no condensation. Before testing, the disc should be conditioned to the testing environment more than 24hrs.

## 5.2 Operating Condition ( For Write/Read )

1	Temperature	-5 to 55 deg C
2	Absolute Humidity	1 ~ 30g/cu. M
3	Relative Humidity	3 ~ 85% RH
4	Relative Temperature variations	< 10 deg C/hr
5	Relative Humidity variations	< 10% RH/hr

No condensation occurs on the disc.

## 5.3 Storage Condition

1	Temperature	- 10 to 55 deg
2	Absolute Humidity	1 ~ 30g/cu. M
3	Relative Humidity	3 ~ 90% RH
4	Relative Temperature variations	< 15 deg C/hr
5	Relative Humidity variations	< 10% RH/hr

No condensation occurs on the disc

## 5.4 Transportation

1	Temperature	-10 to 55 deg C
2	Absolute Humidity	1 ~ 30g/cu. M
3	Relative Humidity	3 ~ 90% RH
4	Relative Temperature variations	< 15 deg C/hr
5	Relative Humidity variations	< 10% RH/hr

No condensation occurs on the disc. The disc should not be kept under the above condition more than two weeks.

## 5.5 For Reliability Test, Test Condition

1	Temperature	80 deg C
2	Humidity	80% RH
3	Duration Time	250 hrs

After Climate test the disc should maintain the book specifications.

## 6.0 RAW MATERIAL DETAIL

1	Substrate	Polycarbonate
2	Recording Layer	Phase Change Alloy
3	Reflective Layer	Silver Alloy (Ag)
4	Bonding layer	UV bonding resin

## 7.0 MEDIA CHARACTERISTICS AND SPECIFICATIONS

### 7.1 Disc Geometry

1	Outer diameter of disc	80 +/- 0.3 mm
2	Center hole diameter	15.0 + 0.15/-0.0 mm
3	Substrate thickness	1.20+0.03/-0.06 mm
4	Track pitch	0.74 ± 0.01 um
5	Scanning velocity	3.49 ± 0.03 m/s
6	M-Code	MBI01RWG 10

### 7.2 Mechanical Characteristics

1	Radial Deviation	± 0.7 deg
2	Tangential Devia tion	± 0.3 um
3	Axial Deflection	± 150 um
4	Radial P-P	< 40 um
5	Axial Acceleration	± 4 m/s <sup>2</sup>
6	ECC	< 30 um
7	Tangential Skew	± 0.13 um
8	Radial Acceleration	± 0.8 m/s <sup>2</sup>
9	Radial Skew	± 0.315 deg
10	Unbalance	<2.5gm*mm

### 7.3 Unrecorded Characteristics

1	Birefringence	100nm max
2	LPPb	0.18 – 0.27
3	NWO	0.08 - 0.14
4	Radial Noise 1b	< 22 nm
5	Radial noise 2b	< 16 nm
6	CNR of Wobble	> 35 db
7	BLER b	<3 %
8	Push Pull b	0.22 – 0.44

#### 7.4 Recorded Characteristics

a)	At DOW 0	
1	Reflectivity	18-30%
2	m14	> 0.6
3	Assym	-0.05 to 0.15
4	Radial Noise 1a	< 15 nm
5	Radial Noise 2a	< 16 nm
6	PISUM 8	< 280
7	PIE	< 5
8	TCS	> 0.1
9	AR	> 15
10	DPD Amp	0.5 to 1.1
11	I14/I14H DV	< 0.15
12	DC Jitter	< 8%
13	CNR of Wobble	> 31

#### b) Direct Overwriting ( DOW 1000 )

1	Jitter	< 10 %
2	PIE avg	< 280

**Note: These parameters entirely depend on the recording drives and test equipments**