

LOW REFLECTIVITY TEST CD-R

For Checking CD Players and CD Drives

Eccentricity	SCD-4244A/ -4245A/ -4246A/ -4247A
Vertical deviation	SCD-4248A
Scratches	SCD-4249A
Defects	SCD-4250A

1. Purpose of use, Features

These are Test Discs designed for various kinds of confirmation of operation and playability for low reflection CD-R of CD Players and Drives etc..

TCD-R091LMY its Reflectivity is 56% (*1) is used as material disc.

Disc Format is CD-DA.

Features of respective discs

- SCD-4244A/ -4245A/ -4246A/ -4247A are Eccentricity discs.
Each disc has 70, 140, 210 and 280 μ m Eccentricity respectively. It is available to use for confirmation of tracking servo ability, evaluation, measurement and adjustment.
- SCD-4248A is Vertical deviation disc.
Vertical deviation at ϕ 114mm is 1.0mm. It is available to use for confirmation of Focus servo ability, evaluation, measurement and adjustment.
- SCD-4249A is Scratches disc.
It is simulated missing signals by Scratches on the surface of a disc. Scratches are processed as staircase type from 0.4mm to 3.0mm width with each 0.2mm step of 14 steps.
- SCD-4250A is Defects disc.
It is simulated stains and fingerprints adhered on the surface of a disc by Black Bands and Fingerprints.
Black Bands are processed as staircase type from 0.4mm to 1.0mm width with each 0.2mm step of 4 steps.
Microscopic dimension of dots are managed on Fingerprints.
Fingerprints are processed with 2 steps of A and B.

2. Specifications *2

- | | |
|---|---|
| <ul style="list-style-type: none"> • Disc type : Low reflection CD-R Disc (700Mbytes/ 80min) • Material disc : TCD-R091LMY • Format : CD-DA • Recorded time : 1hr. 19min. 56sec. • Scanning velocity : 1.2 m/sec (for reference) • Track pitch : 1.5 μm (for reference) • Push-Pull (PP) : 0.08 ~ 0.14 • Reflectivity (Rtop) | <ul style="list-style-type: none"> • Outer diameter : 120 \pm 0.3 mm • Center hole diameter : 15.0 +0.1/ -0 mm *4 • Disc thickness : 1.2 +0.3/ -0.1 mm • Eccentricity : \leq 70 μm 0-p • Radial tilt (β angle) : \pm 0.6 deg 以下 |
|---|---|

Model name	Reflectivity	CD-R Specification	Description
TCD-R091LMY	56 \pm 3 % with PBS *1	\geq 60 % *3	For testing minimum value specified in CD-R Specifications

*1 Reflectivity (Rtop) is measured value at user data area (except Index 0) by our standard equipment after recorded once by our standard recorder.

PBS is acronym standing for Polarization Beam Splitter.

*2 Values described above Specifications are characteristics of a disc before processing.

Physical Characteristics other than Reflectivity and Push-pull comply with Recordable Compact Disc Systems Part 2 Ver.3.1.

*3 This is the value specified in Recordable Compact Disc System Part 2 Volume 2 Multi-Speed.

*4 In regard to center hole diameter of Eccentricity discs (SCD-4244A~4247A) and Vertical deviation disc (SCD-4248A), please refer to Specifications of those discs.

Values in this sheet are measured by the equipments ALMEDIO-owned. Appearance and specifications are subject to change without notice.

3. Content

Track No.	Time		Contents	Radial positions * mm
	min	sec		
1	3	15	Minuetto	24.8
2	2	32	2 ème Gymnopédie	27.0
3	3	02	Ouverture Miniature (Casse-noisette Op. 71a)	28.5
4	2	36	Marche (Casse-noisette Op. 71a)	30.3
5	3	09	Clair de Lune	31.8
6	3	12	Nocturne (Op. 9-2)	33.4
7	2	26	Danse de la Fée-Dragée (Casse-noisette Op. 71a)	35.0
8	2	29	Danse Arabe (Casse-noisette Op. 71a)	36.2
9	2	51	Fantaisie-Impromptu (Op. 66)	37.4
10	2	02	Hungarian Dance No.5	38.7
11	3	38	Prélude < Raindrop >	39.6
12	3	15	Maiden's Prayer	41.1
13	3	08	Valse des Fleurs (Casse-noisette Op. 71a)	42.5
14	3	29	1 ère Gymnopédie + Blank(35sec)	43.7
15	35	22	Danse des Mirlitons (Casse-noisette Op. 71a)	45.1
16	2	58	1 ère Gymnopédie	56.9
TOTAL TIME (Including pause time) 79min 56sec				(AA : 57.8)

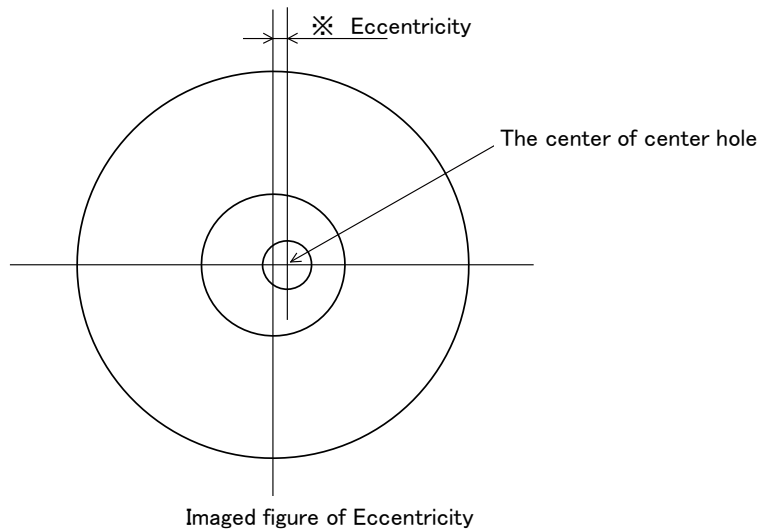
* Radial positions are calculated value of design. Actual value may differ.

4. Specifications of Eccentricity discs

- Center hole diameter : 15 +0.04/ -0 mm
- Eccentricity

Model name	Eccentricity μm ※	Description
SCD-4244A	70 \pm 5	For testing the maximum value specified in CD-R Specifications
SCD-4245A	140 \pm 5	-
SCD-4246A	210 \pm 5	-
SCD-4247A	280 \pm 5	-

※ We define Eccentricity here is the distance from the center of the center hole to the center of the track circle that the most inner pit of the disc plots. Therefore, the Eccentricity of this table is indicated as 0-p.

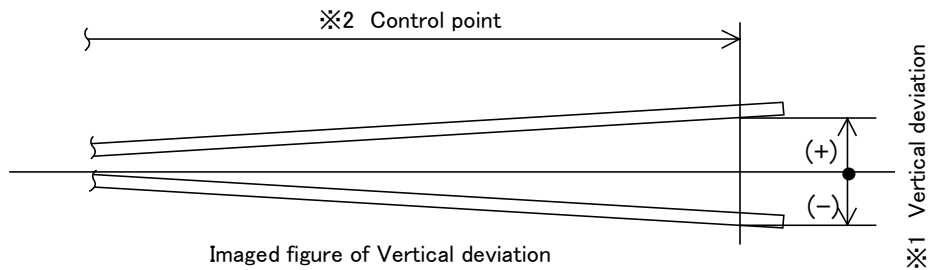


5. Specifications of Vertical deviation disc

- Center hole diameter : 15 +0.04/ -0 mm
- Eccentricity : 10 μm 以下
- Vertical deviation

Model name	※1 Vertical deviation mm	Vertical deviation spreading mm	※2 Control point mm
SCD-4248A	1.0 \pm 0.05	(+)	ϕ 114 Track No.16
		(-)	

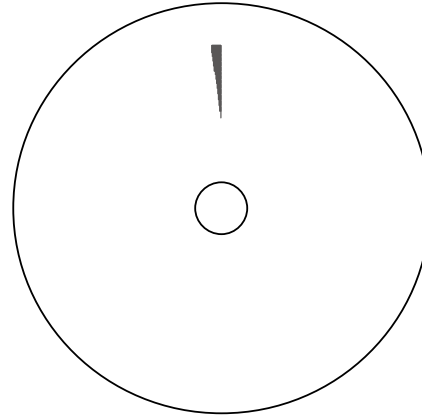
※1 We define Vertical deviation here is the difference between max. and min. shift value of the recorded layer at the control point in vertical direction when a disc rotating one revolution. Therefore, the Vertical deviation of this table is indicated as p-p.



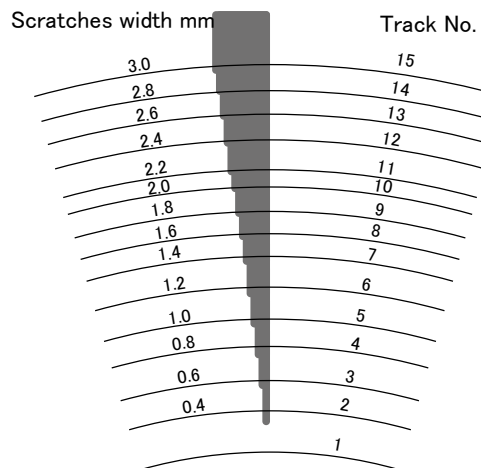
6. Specifications of Scratches disc, SCD-4249A

- Scratches are processed as staircase type from 0.4mm to 3.0mm with respect to each 0.2mm step of 14 ste

Track No.	Scratches width mm
1	–
2	0.4
3	0.6
4	0.8
5	1.0
6	1.2
7	1.4
8	1.6
9	1.8
10	2.0
11	2.2
12	2.4
13	2.6
14	2.8
15	3.0
16	–



Imaged figure of Scratches (Read out side)

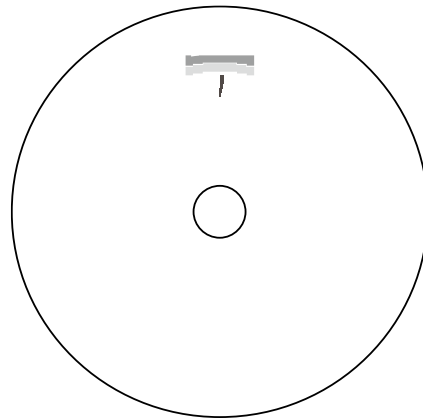


Location of Scratches and Tracks

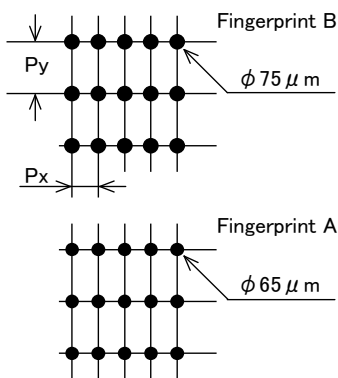
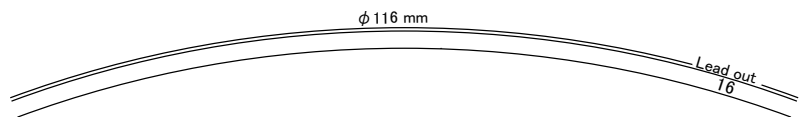
7. Specifications of Defects disc, SCD-4250A

- Black Bands are processed as staircase type from 0.4 to 1.0mm with respect to each 0.2mm step of 4 steps
- Microscopic dimension of dots are managed on Fingerprints area.

Track No.	Defects
1	-
2	-
3	-
4	-
5	-
6	-
7	Black band width 0.4 mm
8	Black band width 0.6 mm
9	Black band width 0.8 mm
10	Black band width 1.0 mm
11	Black band width 1.0 mm
12	-
13	Fingerprint A
14	Fingerprints A or B
15	Fingerprint B
16	-

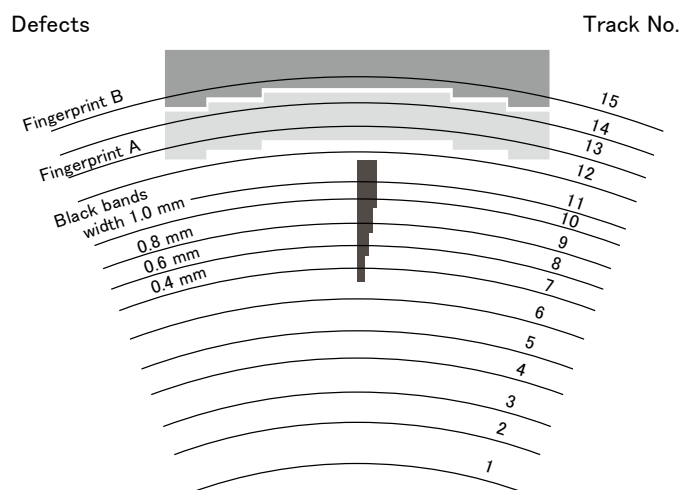


Imaged figure of Defects (Read out side)



Clearance of respective dots mm
 Tangential direction: Px=0.125
 Radial direction: Py=0.25

Details of Fingerprints



Location of Defects and Tracks

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<Proper handling of the disc>
 Do not write on the surface with a pen and others, nor put a sticker on it.
 Do not expose the disc to direct sunlight, nor leave it in the place of high temperature and high humidity.
 After playing, store the disc in its own case.

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