

Specifications

Dear Reader,

The enclosed specifications have been compiled to ensure smooth order hand-off to Discus .
These guidelines cover:

- Metallization
- Disc silk-screen and offset printing specifications
- General guidelines

Metallization

The following images are overviews of unprinted discs. Discus offers 2 types of metallization.

Standard Metallization

34 x 119 mm



Standard Metallization with silver surface from diameter 34mm to 119 mm. From 34 mm to the center it is clear plastic.

Full Metallization runs right through to the centre.

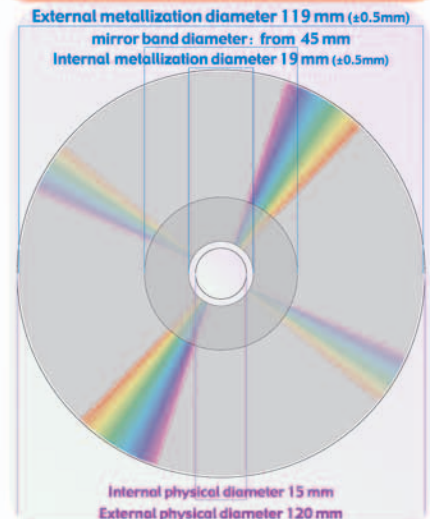
The difference between a metallized surface and clear plastic surface will have an impact on the print appearance of the printed disc.

As the ink layer is transparent, you will notice a colour variation between the metallized and non-metallized areas.

So the metallization needs to be taken into account when choosing your print area.

Full Metallization

119x 119 mm



Note for printing on silver background:

- Because of the inner mirror band, do not print into the diameter 45 mm area if the design is made of black text on silver background.

- Blank CDR's have an inner mirror band diameter ending at 40 mm instead of 45 mm.

Silk-screen and Offset printing specifications

Discus uses two different print processes, silk-screen printing and offset printing. Silk-screen printing is best for discs with solid colours (1,2,3,4 Pantone® colours) or CMYK* with strong contrast and wide tonal range. Offset is best for photo aspect layouts and can accommodate a 6th screen-printed colour.

Specification A 34, 119 mm

This is best for printing on the metallized part of the disc only.

This is also best for CDR overprinting where the groove ring varies from one CDR supplier to another.

Note: for CDR on silver background, we wouldn't recommend that you place any design into diameter 40 mm.



External staining ring diameter 35 mm
Internal staining ring diameter 33 mm

Specification B 18, 33-35, 119 mm

This is best for printing on the whole of the disc with a Standard metallization.

Please note that there may be a colour variation between the print on the metallization and the clear centre part of the disc.

The area from 33 to 35 mm must be clear of any design.



Inner ring 18 mm
Outer ring 119 mm

Specification C 18, 119 mm

This is best for printing on the whole of the disc, with no groove and a fully metallized disc surface.

Note: a CD with no groove is also called a CD with 'vacuum stamper holder'. A DVD will not have a groove in any case.



Inner ring 18 mm
Outer ring 119 mm

Print area / metallization matrix:	Print area		
	Specification A	Specification B	Specification C
CD Standard metallization	OK	OK**	OK*
CD Full metallization	Not recommended	Not recommended	OK
DVD Standard metallization	OK	Not recommended	OK*
DVD Full metallization	Not recommended	Not recommended	OK
CDR	OK	OK**	Not recommended

OK*: Due to the difference in the areas covered by the metallization and the print, non-consistencies might appear in the final design, specifically on the light shades. It is always recommended that print & metallization coverage on the disc completely overlay each other.

OK**: When specification "B" is requested with standard metallization or for CDR, we would recommend to apply a white base to minimize the colour variation between the metallization area and the clear centre part of the discs.

General guidelines

- Background:

Please always specify if a white background is required as the unprinted disc is a silver surface.

For a better print result, especially when CMYK colours are required, we would recommend to use a white background.*

- Inks:

The ink used for printing is coated. We can supply CMYK* and all Pantone® Coated.

Any other special ink (i.e. fluorescent, special solid colour, or Metallic inks) or matt finishing will have to be created and approved when necessary. Lead time and cost will vary. Please contact Sales for details.

Offset printing is using a white base ink then CMYK* primary inks. A 6th colour for Pantone®, matt or glossy finishing can be provided.

- Proof and colour matching:

Solid colours and halftone - Pantone® Matching System

Discus can screen-print any colour from the Pantone® Colour Formula Guide 1000 as well as the Pantone® Metallic Colour Guide. Please be aware that slight colour variations may occur between a colour printed on the white surface and the same colour printed on the disc's aluminium surface. The colour might seem lighter on the disc than on the Pantone® book.

Whether you submit films or files for solid colour screen-printing, it is essential that you provide Discus with a proof of the disc label printing, made from the films or files supplied. It can either be a pdf (software proof), a paper proof or a disc sample. These proofs are used as content proof when provided in black and white or as a colour guide when printed on a non-calibrated printer. The colour match will be done using a Pantone® Matching Book.

CMYK* 4 colour process

Discus can screen-print or offset print using CMYK* 4 colour process.

Whether you submit films or files for CMYK*, it is essential that you provide Discus with a proof of the disc label printing, made from the films or files supplied. It can either be a pdf (software proof), a paper proof (printed from any kind of paper printer), a digital proof (printed from Agfa, Iris, Epson, etc... printers which have a good definition), or a disc sample. These proofs are used as content proof when provided in black and white or as a colour guide when printed on a non-calibrated printer.

When you are looking for a perfect colour match, it is imperative that you supply a calibrated colour proof (i.e.: Cromalin, Match Print), made from the positive films or files supplied to Discus

Note:

These calibrated colour proofs were created for Offset printing. There is no calibrated colour proof dedicated to Silk-screen printing. However the Silk-screen printing process allows us to get a very close match.

- Hard copy films:

If you wish to provide Discus with films, please ensure that they comply with the following:

- **Density** above 3.5
 - **Registration marks**, at least 10mm from the image for screen-printing and at 5 mm from the image for offset printing.
 - **No die line** to appear on the films
 - **One film per colour**, with on each:
 - the catalogue number
 - the colour name or PMS number
 - the lpi (line per inch)
 - the dot angle
 - **Resolution** above 300 dpi
 - **Angling of 4-colour** halftone rulings (CMYK*: standard)
 - *Cyan* 75°
 - *Magenta* 15°
 - *Yellow* 0°
 - *Black* 45°
- The strongest, most dominant colour should always be at 45°
- **Angling of 3-colour** halftone rulings
 - *darker colour* 45°
 - *lighter colour* 15°
 - *third colour* 75°
 - **Angling of 2-colour** halftone rulings
 - *darker colour* 45°
 - *lighter colours* 75°
 - **Angling of single colour** halftone rulings
 - *dot angle at* 45°

	Screen print	Offset print
- Reading	Right	Right
- Emulsion	Positive	Negative
- Dot shape	Elliptical	Round
- Lpi	120	175
- Tonal range	15 to 85%	3 to 97%
- Minimum font size:	5 pts	5 pts
- Minimum line width:	0.15 mm	0.15 mm

- File transfer:

You can send your files:

- via our FTP site,
- by email,
- on a CD

Please make sure your files are zipped to protect your data, especially the Mac fonts.

- To appear on the CD:

- The mention 'Manufactured in E.U. or 'Made in E.U. by Discus
- The MCPS logos:

CD AUDIO



CD Rom



DVD



- Print files:

For a better quality outputting, we would recommend to use these files:

1- An Illustrator file must include:

- All text outlined or Mac fonts (screen fonts + printing fonts) provided.
- All pictures embedded except those in Pantone® colours, should be only linked, and the linked file provided with the artwork file.
- Centred rings will have to be perfectly aligned.

2- A QuarkXpress file must also include:

- Mac fonts (screen fonts + printing fonts),
- All picture files provided with the artwork file.
- Centred rings will have to be perfectly aligned.

*Note: We would recommend not using RGB** picture.*

We do not recommend using a PDF file for film outputting.

* CMYK: Process colours. Means Cyan, Magenta, Yellow and black.

** RGB: Red, Green and Blue. Colour separation used for the monitors, not to use in the print industry.