# Professional Grade Optical Media

For duplication, archiving and medical applications



## Professional Grade Optical Media

Verbatim's professional optical media is manufactured on selected production lines using up to 66% tighter specifications than standard media. Only the same **Mitsubishi-owned media codes** are used on all Verbatim professional media, which guarantees:

- Top class disc-to-disc consistency
- Best burner and player compatibility
- Supreme burning quality

#### **Superior Grade**

The superior grade of the Verbatim media ensures that you have less downtime of hardware, fewer rejects, fewer returns from customers and lower overall costs, providing the ideal choice when quality and reliability is a priority.

#### **Applications**

- Duplication
- (e.g. marketing discs, technical manuals, software updates)

Verbatim.

Software Update

- Archiving (save space on your 1st tier HDD RAID system)
- Medical applications
   (e.g. X-Ray, MRI, Ultrasound recordings)

Verbatim

PowerBay

## **Print Surfaces**

Verbatim's professional range is available in a variety of high quality print surfaces to suit all needs. All surfaces are unbranded (i.e. do not include the Verbatim logo) and are offered in the newly developed wide printable surface allowing you to fully print and rebrand your discs.

#### Inkjet Matt White and Silver and Glossy Water resistant

For all inkjet printers supporting disc printing Standalone printers

Professional duplication equipment

#### Fully compatible Thermal surface

Used in duplication equipment Rimage Everest & Prism printer series TEAC P55 Printer

#### **Shiny Silver**

For Thermal transfer
For Silkscreen printing



Compatik	oility and	print qu	ality with	n profess	ional ther	mal prin	ters	
Ink	Rimage			TEAC  Different Ribbons			_	
	Verbatim	Good	Good	Good	Good	Good	Good	Good - Fair
Competitor x	No Data	Very Good	Good	Poor	Good	Poor	-	No
Competitor y	Poor	Poor	Good	Good	Good	Good	Good	Yes
Competitor z	No Data	Fair	Good	Good	Good	Good	Fair	Yes

## Verbatim Proprietary Technologies

Mitsubishi Kagaku Media (MKM), Verbatim's parent company in Japan, brings extensive technological research and development to the company's product lines. Core technologies, like our AZO recording layer and Hard Coat finish give Verbatim media the technological advantage over competing products.

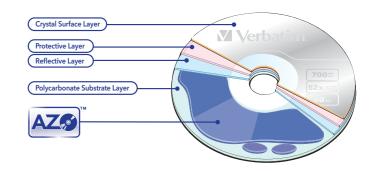




## Advanced AZO Dye Technology

This Mitsubishi Chemical Corp. patented, ultra-stable recording layer strongly resists UV light, withstands high laser and rotation speeds on newer drives, and ensures compatibility with current optical storage media standards.

What does that mean for you? The AZO recording layer, which is contained within all Verbatim professional CD and DVD media, enables excellent read and write performance, high-quality photo and sound storage recording quality and superior archival stability that lasts for generations.

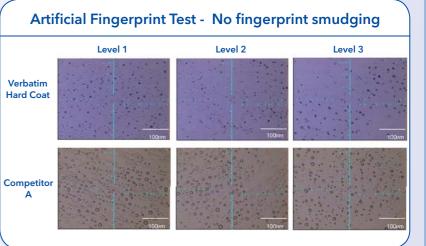


## Hard Coat Surface

Some discs are handled extensively, for example, 8cm discs that are constantly placed in and out of the camcorder in external environments. To protect from potential damage, all Verbatim Blu-ray and Archival Grade discs benefit from the Hard Coat protective layer, which was developed originally by Verbatim. This layer protects from fingerprints, dust, scratches, static and water.

See below 2 examples. The left hand image shows a disc comparison for typical scratch resistance. The right hand image shows how Verbatim's Hard Coat prevents from fingerprint smudging, an essential feature for Blu-ray and Archival Grade recording.

















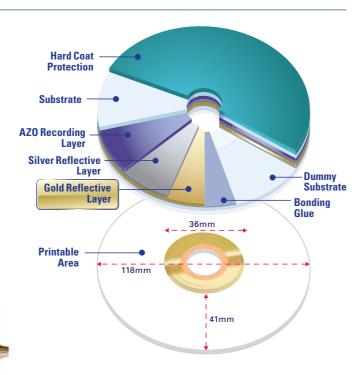


### Gold Archival Media

With a dual gold/silver reflective layer, AZO dye and Hard Coat protection, the Gold Archival DVD-R is designed for longevity. The dual gold/silver reflection layer with the valuable gold coating offers the longest possible archival lifetime.





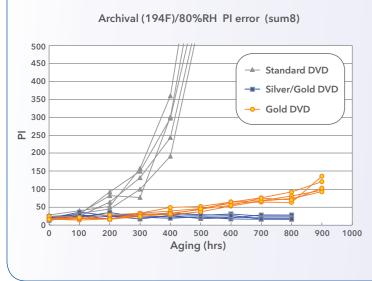


# **Excellent Environmental Durability**

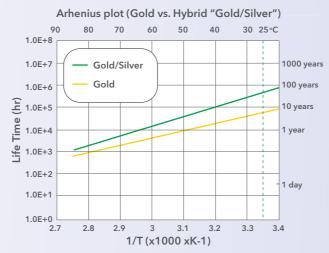
Oxidization is one of the primary causes of corrosion in optical discs; oxygen can penetrate through the bonding glue, exposing the metallic reflective layer to corrosion. Gold is more durable against atmospheric substances such as oxygen, and the gold layer on Verbatim's Dual Reflective Layer R-DVDs prevents this deterioration from happening. When tested under a range of accelerating aging and environmental conditions including extreme heat, humidity and ultraviolet light, Verbatim's Gold Archival

media with its Dual Reflective Layer produced excellent results (see Damp Heat Test Comparison diagram below). Also, when compared to "gold layer only" discs, Verbatim's Dual Reflective Layer media delivers significantly longer lifetime performances (see Lifetime Estimation Comparison diagram below). This is because gold remains relatively soft when used in R-DVD media which can lead to deformation of other adjacent materials such as dye and polycarbonate, which are heated easily.

#### **Damp Heat Test Comparison**



#### **Lifetime Estimation Comparison**



## DataLifePlus

Within the Verbatim professional portfolio is the DataLifePlus range which is selected to even tighter specifications, eradicating tracking and focus error and ensuring better compatibility with writers and recorders.

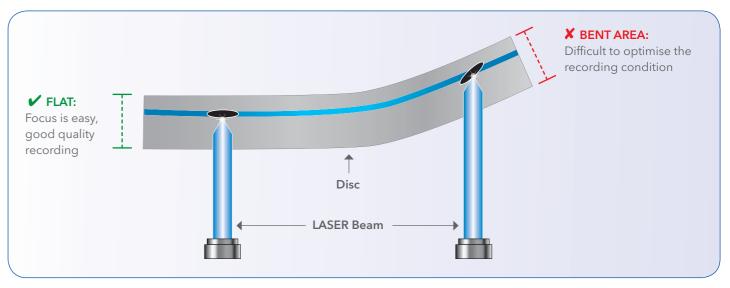
#### This results in:

- Less deflection and eccentricity on CD-R
- Less deviation and tilt on DVD-R
- Tighter specs on BD-R

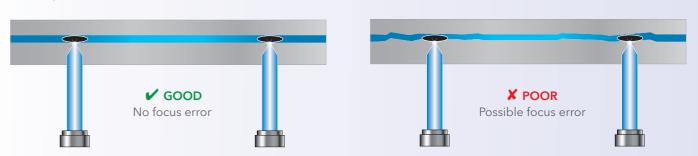


## Keep The Disc Flat

Verbatim/Mitsubishi controls the complete manufacturing process (including stamper manufacturing). The combination of a perfect recording spiral, absolute disc flatness and the AZO recording layer ensures excellent recording quality.



Mitsubishi controls the production process. A flat disc without focus error can be written/read by the burner / writer without problems.



Influence of a good stamper vs. a poor stamper.

A disc without tracking error can easily be written/read by the burner/player.

\*\*POOR\*\*
Possible tracking error

\*\*POOR\*\*

\*\*Poor\*\*

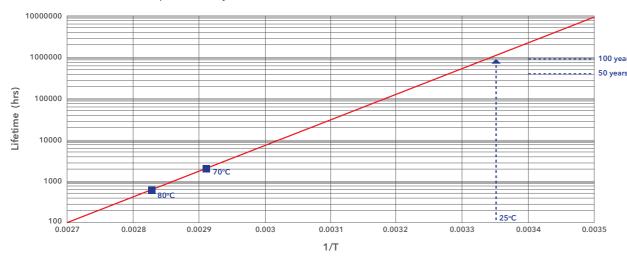
No tracking error

## Lifetime Expectation

Due to the superior technology used on Verbatim media, the expected lifetime of our discs are 100 years for DVD-R and CD-R, and 50 years for BD-R, BD-R DL and DVD+R DL. (Arhenius method).

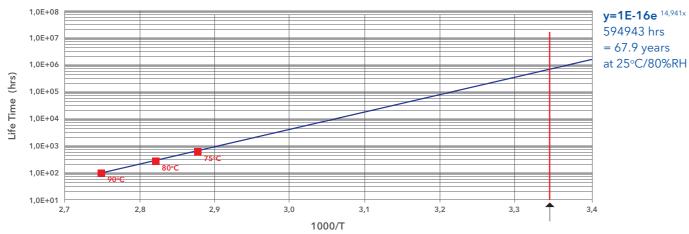
#### Arhenius Plot of Mitsubishi High Speed CD-R

CD-CATS SA3 BLER > 220cps (Humidity: 85%RH)



#### Life Estimation of MKM DVD+RDL

(Life End: PI Error =280)



# **Quality Certified**

All Verbatim optical media factories are ISO9001 and ISO14001 certified. Verbatim optical media fulfils RoHS and WEEE requirements.

ISO9001 Quality Manageme ISO14001 Environmental Management





# Verbatim's Heritage

**▲ MITSUBISHI CHEMICAL CORPORATION** 



Verbatim is a 100%-owned subsidiary of Mitsubishi Kagaku Media (MKM), which itself is part of one of the largest chemical companies in the world, Mitsubishi Chemical Corporation (MCC).

Mitsubishi Chemical's R&D combined with its strong cooperation with drive manufacturers ensures that Verbatim's media is of the highest quality and offers the widest compatibility of with all the major hardware manufacturers in the market.

With these technical and marketing advantages, Verbatim has become the worldwide number 1 selling brand for optical media.

# Verbatim Product Portfolio - Professional Optical Media

PN	SPEED	CAPACITY	CONFIGURATION	SURFACE*	PRINT DIAMETER	PRINTING SYSTEM
BD-R						
43738	6X	25GB	25pk spindle	DataLifePlus Wide Printable No-ID	22 - 118	Inkjet
43743	6X	25GB	25pk spindle	DataLifePlus WideThermal No-ID	23 - 117	Everest, Prism & P5
43749	6X	50GB	25pk spindle	DataLifePlus Wide Print No-ID	22 - 118	Inkjet
43750	6X	50GB	25pk spindle	DataLifePlus WideThermal No-ID	22 - 117	Everest, Prism & P5
DVD-R/+R						
43755	16X	4.7GB	50pk spindle	DataLifePlus Wide Thermal No-ID	21 - 118	Everest, Prism & P55
43512	16X	4.7GB	50pk OPS spindle	DVD+R Wide Print No-ID	21 - 118	Inkjet
43744	16X	4.7GB	50pk spindle	DataLifePlus Wide Print No-ID	21 - 118	Inkjet
43645	16X	4.7GB	50pk spindle	Wide Silver Print No-ID	21 - 118	Inkjet
43647	16X	4.7GB	50pk spindle	Shiny Silver No-ID	40 - 118	Prism / Silkscreen
43734	16X	4.7GB	50pk spindle	DataLifePlus Waterproof printable No-ID	21 - 118	Inkjet
43782	16X	4.7GB	50pk spindle	Wide Thermal Silver	21 - 118	Everest, Prism & P5
43638	8X	4.7GB	5 pk Box Std J/case	Gold Archival Printable No-ID	36 - 118	Inkjet
43634	8X	4.7GB	25 pk OPS Spindle	Gold Archival Printable No-ID	36 - 118	Inkjet
DVD+R DL						
43754	8X	8.5GB	50 pk Spindle	DataLifePlus Wide Thermal No-ID	21 - 118	Everest, Prism & P5
43703	8X	8.5GB	50 pk OPS Spindle	Wide Print No-ID	21 - 118	Inkjet
CD-R						
43745	52X	700MB	50pk OPS Spindle	DataLifePlus Wide Print No-ID	23 - 118	Inkjet
43653	52X	700MB	50pk Spindle	Wide Silver Print No-ID	23 - 118	Inkjet
43781	52X	700MB	50pk Spindle	Wide Silver Thermal	23 - 118	Everest, Prism & P5
43756	52X	700MB	50pk Spindle	DataLifePLus Wide Thermal No-ID	23 - 118	Everest, Prism & P5
43582	52X	700MB	50pk Spindle	Shiny Silver No-ID	40 - 118	Prism / Silkscreen
43718	52X	700MB	50pk Spindle	Thermal No-ID	40 - 118	Prism
43710	52X	700MB	25pk OPS spindle	Wide Print No-ID - Vinyl	23 - 70	Inkjet
DVD-RAM						
95026	3X	9.4GB	50pk spindle	Not Applicable (N/A)	N/A	N/A
8cm DVD-R						
43573	1X - 4X	1.4GB	10pk OPS Spindle	Wide Printable No-ID	23 - 78	Inkjet
Medical DV	D-R					
94905	8X	4.7GB	10 pk Box Std J/case	Medi disc - White/Blue	N/A	N/A
Medical CD	)-R					
	• •			Medi disc - White/Green	N/A	N/A







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