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PHOTO PRINT
BY FUJIFILM

Product Information Bulletin
Album HD



1. Features and uses

Fujicolor Crystal Archive Album High Definition Paper has a thin Glossy or Lustre base which enables the automatic creation of photo book blocks with a special lay flat binding technology and optimal handling of the pages when viewing the photo album.

Fujicolor Crystal Archive Album HD Paper incorporates the High Definition silver halide emulsion technology which delivers enhanced colour reproduction, white purity and excellent image stability with a smooth high Glossy and Lustre finish with a specific protection layer resulting in good fingerprint protection.

Fujicolor Crystal Archive Album HD Paper allows the reproduction of a much higher colour gamut than electrostatic prints. Digital cameras use the RGB gamut and HD paper is also printed in RGB gamut. As a result, no image quality loss occurs and an automated produced photo album can be viewed with a brilliance as never before.

Features

Additional protection layer	Improves fingerprint resistance and reduces instances of pages sticking together
Optimal designed thickness	Resulting in smooth paper handling
More vivid colour reproduction / wider colour range	Retains beautiful colours such as subtle shades of green, vivid blues and reds
More brilliant white and deeper blacks	Clearer, more distinct highlight details and deep black
Excellent image stability	Exhibits excellent image stability during long term dark and light storage conditions, as well as storability with respect to nitrogen oxide, ozone and other gasesother gases

2. Safelight

Handle in total darkness. If safelight use is unavoidable, observe the following precautions.

- Expose paper no longer than 1 minute to light emitted through two Fuji Safelight Filter No.103A (or Wratten Safelight Filter No. 13) in a 10 watt tungsten lamp safelight located at least 1 meter from the work area.
- Safelight filters fade with extended use and need regular checking. Replace when paper fogging is detected.
- Exposed paper is susceptible to safelight induced sensitivity increases in the exposed area. For this reason, exposed paper should be subjected as little as possible to safelight illumination.

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3. Pre-processing paper handling - Storage

The higher the temperature and humidity, the more paper, whether unused, unexposed or exposed, is susceptible to adverse changes in speed, color balance, physical characteristics and other properties. Unprocessed paper is best stored at low temperatures. Specifically, the following conditions should be used for paper storage.

- Short term storage: Store in a cool and dark location, away from direct sunlight, high temperature and high humidity.
- Long term storage: Below 10°C (50°F).

**Remark: Silk surface:
- Short term storage (0~4 months): Max 20°C (68°F)
- Long term storage (> 4 months) : Below 10°C (50°F)

Raw paper which has been stored at a low temperature (by refrigeration) should be set aside and allowed to warm to room temperature prior to being opened.
If the paper is taken out of its packaging immediately after being removed from refrigerated storage, condensation will be formed on the paper surfaces, resulting in print colour changes and easily damaged surfaces.
The minimum temperature equalization periods are as follows.
20°C (68°F) Temperature Equalization Periods
Unit: hours.

	Storage Temperature		
Paper Size	-20°C (-4°F)	0°C (32°F)	10°C (50°F)
127cm x 50m (50 in. x 164 ft.)	6	5	3,5

Notes: Do not heat paper in order to equalize temperatures.
Remove paper from refrigeration one day before use.

If exposed paper remains unprocessed for extended periods of time under normal room conditions or is subjected to high temperature and/or high humidity, changes in the color balance and other properties may occur. The time between exposure and development should be fixed in order to obtain consistent quality. Avoid waiting until the next day to develop the exposed paper. Rather than holding the paper for processing the next day, initiate processing as soon as possible.

4. Printing and processing

This paper is designed for use with Fujicolor Paper processing chemicals as CPRA and RA4 type processes. The paper characteritics are optimized for printer systems as mentioned in section 17 Calibration data.
The Fujicolor Crystal Archive Album HD Paper Glossy is not advised to use in minilab systems.

5. Control strips

Processing control can be provided through the use of Fujicolor Crystal Archive Paper Control Strips Process CP-40FA/43FA/47L/48S and 49E.

6. Post processing print handling - Storage

Fujicolor Crystal Archive Album HD Paper is a thin paper. This paper is recommended to be used under specific environmental conditions. The recommended environmental conditions for post processing are:

- Temperature within 17 - 27°C
- Relative Humidity within 40 - 75%

Since prints are usually used for the long term recording of images, as much effort as possible is made to use materials that exhibit the least amount of change overtime. The effects of high force during folding, light, heat, oxygen in the air, contaminating gases, humidity and mold cannot be completely avoided. It is advised to use low forces during assembling the album.
Also the change in the photographic image or base material are minimized by maintaining the appropriate storage conditions for prints, such as those used by museums and art galleries.

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6. Post processing print handling - Storage

Temperature and humidity control is the most important key to minimizing the change that occurs in prints. Prints stored in the dark under the following conditions may be expected to show almost no change over time.

Storage period with almost no change	Temperature	Relative Humidity
More than 20 years	Below 10°C (50°F)	30% - 50%
10 — 20 years	Below 25°C (77°F)	30% - 50%

Notes on Photo Album Storage:

Even during normal storage, it is recommended that photobooks should be stored at a place as free as possible from hot and humid conditions, and away from direct illumination. The following are examples of undesirable storage conditions.

- Storage in a room closet facing a wall exposed to cold outside air (which may cause condensation).
- Storage in a place near the ceiling, such as an attic, the top of a closet or cupboard (where high temperatures may occur).

7. Light sources for viewing

When inspecting finished colour prints, it is essential that an illumination source must be used that has superior spectral characteristics, adequately high colour temperature and sufficient brightness. This is because results can appear different, depending on light quality. For precise results, prints should be examined under the conditions designated by ISO 3664-2009. As a general guide, the following conditions are recommended.

Colour Temperature : 5000 ± 300 K
Average Illumination : 500 Lux or more
General Colour Rendering Index : Ra 90 or more*

* To attain these values, special fluorescent lamps designed for colour evaluation (e.g. EDL type) should be used.

When inspecting finished prints, be careful to shut out all external light and coloured reflected light.

8. Paper surface available

Fujicolor Crystal Archive Album HD Paper is available in Glossy, Lustre and Silk surface.

9. Back printing

This product has no back printing.

10. Markings (Box / Emulsion numbers)

10.1 Box markings

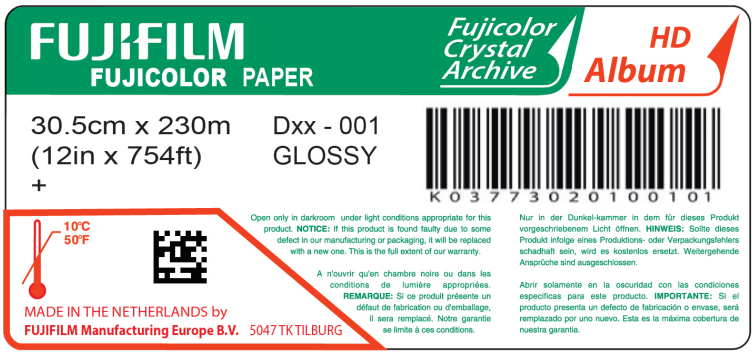


"+" indication means that at least 1 spliced baby roll is packed

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10. Markings (Box / Emulsion numbers)

10.2 Bag labelling



"+" indication means that a splice is present in the baby roll.

10.3 Emulsion numbers

Emulsion numbering will be in ascending order from Dyx-xxx at introduction.

Note:

Fujicolor paper is marked with a three digit emulsion number followed by an additional three digit number which is provided for production control purpose only. Should any problem arise with Fujicolor Crystal Archive Album HD Paper, the additional three digit number suffix to the emulsion number should be indicated on the claim.

11. Product FSC certification

FSC Certification is available from 01-12-2017

12. Technologies incoporated in this paper

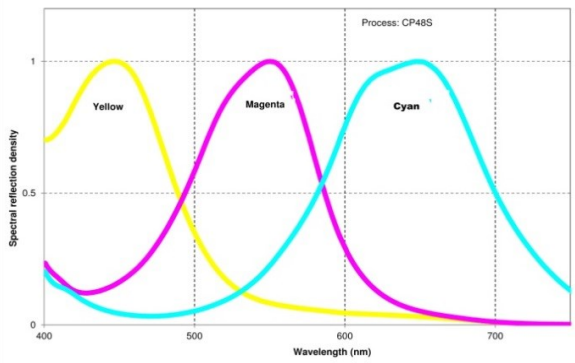
11.1 Base paper technology

Special designed base paper having unique characteristics is used for this product. Optimized paper thickness will result in improved leafing through of photo albums with double sided pages.

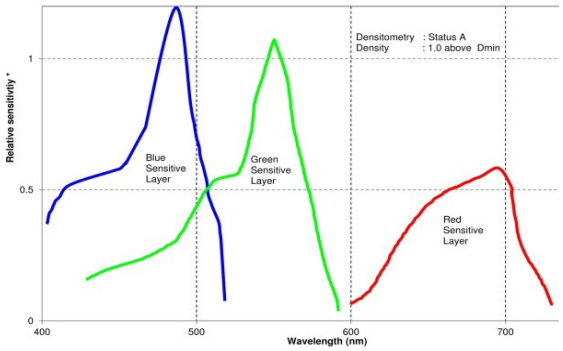
11.2 X-Coupler Technology

Through the incorporation of a latest designed cyan coupler (X-Coupler Technology), which features a molecular structure developed by Fujifim's proprietary technologies, this paper is capable of reproducing colours of high purity, such as vibrant blues and reproducing the subtle shades of green and of forming reds.

13. Spectral dye density curves

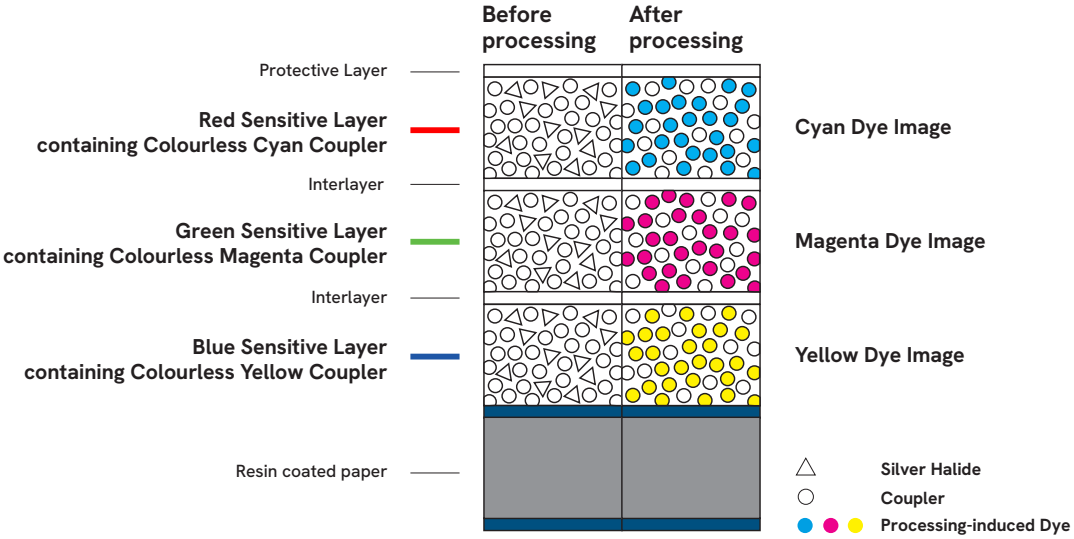


14. Spectral sensitivity curves



*Sensitivity equals the reciprocal of the exposure (j/cm²) required to produce a specified density

15. Paper structure



16. Sizes available

	Box packaging			Bulk packaging		
Length / Width	70 M (230 ft)	120 M (394 ft)	230 M (755 ft)	250 M (820 ft)	550 M (1804 ft)	600 M (1968 ft)
10.2 cm (4 in.)						G / L
12.7 cm (5 in.)					G / L	
20.3 cm (8 in.)			G / L	G / L / S		
22.0 cm (8.6 in.)				G / L / S		
25.4 cm (10 in.)			G / L			
30.5 cm (12 in.)			G / L	G / L / S		
40.6 cm (16 in.)		G				

* Glossy / Lustre / Silk

Note: Size availability may change without prior notice. Availability depends on surface

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17. Calibration data

Album HD						
Equipment		latest software	Calibration data			
			LUT + Target density RGB	Basic calibration cmyd	Intermittance rgb	Thickness
Brand	Name		Glossy / Lustre / Silk			
ISAG	Fastprint		2.20/2.20/2.10	n.a.	n.a.	0.17
	Wideprint 8″, 12nG					
	Wideprint 12″		174	n.a.	n.a.	n.a.
ZBE Chromira	SE, Pro, R2R		2.20/2.20/2.10	n.a.	n.a.	n.a.
Polielettronica	Laserlab 50 / 76		Printer defines own and highest possible Dmax settings (exposure vs chemistry relation)			
Durst	Epsilon			0.004/0.056/0.000/0.920	90 / 50 / 37	
	Zeta		2.20/2.20/2.10			n.a.
	Theta 50 / 51			170.2 / 112.0 / 0.0 / 104.3		
	Theta 76 / 76HS			0.006/0.085/0.000/1.325	101 / 56 / 42	
	Lambda			0.006/0.085/0.000/1.325		

All recommended Dmax values can only be reached when using high active chemistry equal to Fujifilm CPRA Digital Pro AC and Fujifilm ADM chemistry
For competitive and recycling chemistry the Dmax should be reduced with -0.10 density

18. Technical Support

In case abnormalities are found when using this Fujicolor Crystal Archive Album HD Paper please contact your local Fujifilm subsidiary and/or distributor.

Relevant Fujifilm subsidiary and/or distributor contact information can be found on the following internet address: http://www.fujifilm.com/worldwide/

Notice:
The data herein published were derived from materials taken from general production runs. However changes in specification may occur without notice.

FUJIFILM
Fujifilm Europe B.V.
PO box 600
5000 AP Tilburg
The Netherlands

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