

Product Information Bulletin

Fujicolor Crystal Archive Professional Velvet Paper



1. Features and uses

FUJICOLOR CRYSTAL ARCHIVE PROFESSIONAL VELVET PAPER is a new silver halide color paper specially designed to produce fine art prints. This paper has a unique smooth deep matte surface design. That includes a fingerprint protection layer which makes the handling of the produced fine art images much easier. The diffuse reflecting surface characteristic of Velvet paper makes it suitable to display fine art photos even under direct lighting, due to the non-reflective surface. Reason is that the light reflection will be minimized by the Velvet surface.

FUJICOLOR CRYSTAL ARCHIVE PROFESSIONAL VELVET PAPER can also be used for photo book application. The emulsion technology is similar to the Fujicolor Crystal Archive DPII paper. Therefore Velvet fine art images will reproduce enhanced color reproduction, white purity and excellent image stability.

FUJICOLOR CRYSTAL ARCHIVE PROFESSIONAL VELVET PAPER can be used on all Frontier series and large format printing systems.

Features

- | | |
|-----------------------------|---|
| • Pure Whiteness | Clearer, more distinct print images and sharper text quality |
| • Finger print protection | Surface has strong resistance against fingerprints before and after processing |
| • Unique deep matte surface | Creates a unique deep matte surface for an impressive display of images with very little surface reflection |
| • Excellent Image Stability | Highest level of image stability |

- Accurate Color Reproduction
- Expanded color reproduction range ideally suited to commercial, wedding and portrait photography

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 a Fuji Safelight Filter No. 103 (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.

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)

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 form on the

paper surfaces, resulting in print color changes and easily damaged surfaces.

The shortest periods required to return freezer or refrigerator stored paper to room temperature (minimum temperature equalization periods) are as follows.

20C (68°F) Temperature Equalization Periods

Unit: hours

Storage Temperature Paper Size	-20°C (-4°F)	0°C (32°F)	10°C (50°F)
20.3 cm x 250 m (8 in. x 820 ft.)	10	8	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 Process, CP48S and CP49E or RA-4 type processes.

Combining this paper with Fuji chemicals results in many advantages including faster processing, greater processing stability, reduced contamination hazards, greater ease in solution preparation and higher print quality.

5. Control strips

Processing control can be provided through the use of FUJICOLOR CRYSTAL ARCHIVE PAPER Control Strips Process CP48S/49E.

6. Post-processing

The prints should be handled with care to avoid damages on the print. 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. But the effects of high force during folding, light, heat, oxygen in the air, contaminating gases, humidity and mold cannot be completely avoided. 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. 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
> 20 years	Below 10°C (50°F)	30% — 50%
10 — 20 years	Below 25°C (77°F)	30% — 50%

Notes on Prints Storage:

1. Prints should be mounted, or placed into a bag (plastic*) for photographic prints before being stored.

* Made of polyester, polystyrene or polypropylene plastic, etc

2. Even during normal storage, it is recommended that prints 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).

3. Storing prints with their front surfaces facing each other may result in unexpected problems. If the adjacent print placement is unavoidable, it is necessary to keep the surface separated by, for example, the use of interleaving sheets of paper.

7. Light sources for viewing

When inspecting finished color prints, it is essential that an illumination source be used that has superior spectral characteristics, adequately high color 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.

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

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

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

8. Paper surface and thickness available

FUJICOLOR CRYSTAL ARCHIVE PROFESSIONAL VELVET PAPER is available is only available with the unique deep matte surface.

Currently thickness version available:

Type H (heavy) ; 240µm.

Type S (slim) ; 170µm.

9. Back printing

This product has no backprinting.

10. Markings (Box/Emulsion numbers)

10.1a Box markings Velvet Type H



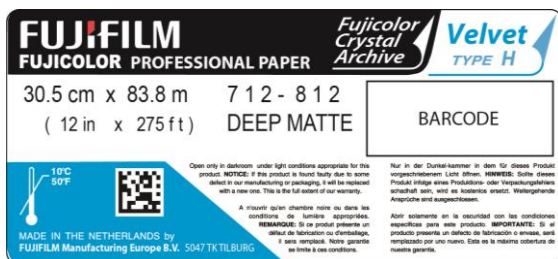
“+” indication means that at least 1 spliced baby roll is packed.

10.1b Box markings Velvet Type S



“+” indication means that at least 1 spliced baby roll is packed.

10.2a Bag labelling Velvet Type H



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

10.2b Bag labelling Velvet Type S



“+” indication means that a splice is present in the baby roll

10.3 Emulsion numbers Velvet Type H / Type S

Velvet Type H:

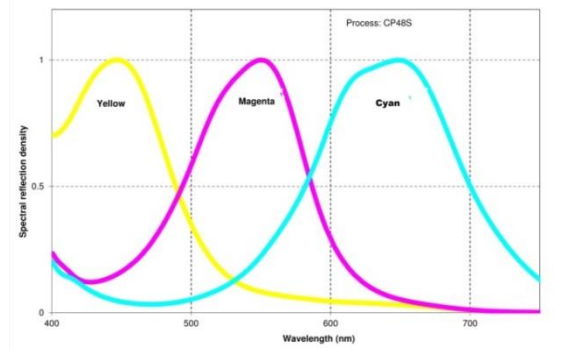
Emulsion numbering will be in ascending order from 7xx-xxx at introduction.

Velvet Type S:

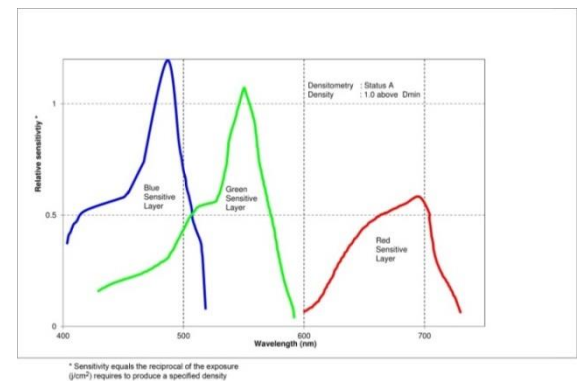
Emulsion numbering will be in ascending order from 8xx-xxx at introduction.

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 PROFESSIONAL VELVET PAPER, the additional three digit number suffix to the emulsion number should be indicated on the claim.

11. Spectral dye density curves

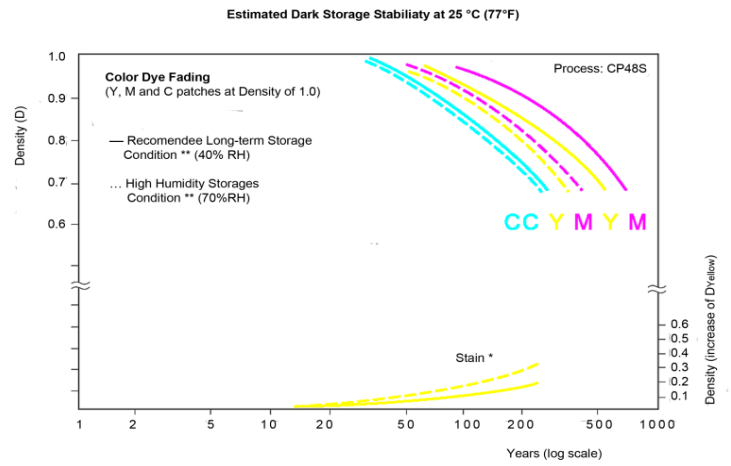
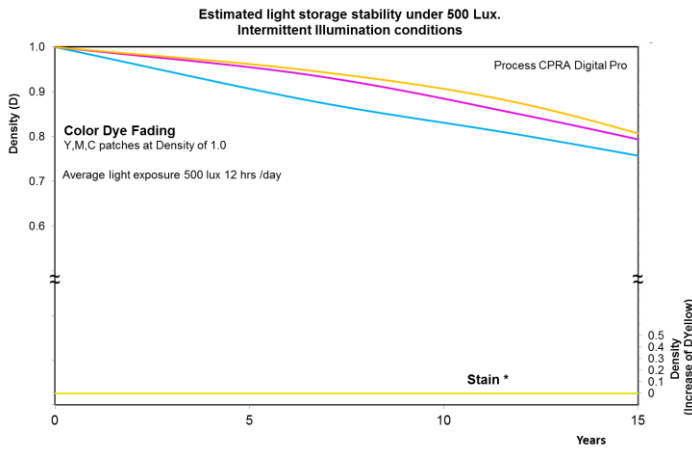


12. Spectral sensitivity curves



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

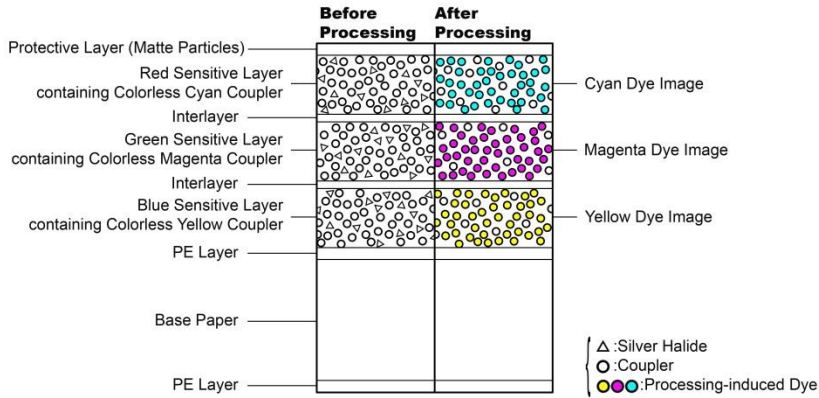
13. Image storage characteristics



* Time induced white background staining (yellowing) is as important as dye image fading in affecting image quality.

** In regard to color image dark storage stability, the level of humidity is just as important as temperature. For this reason, more accurate evaluations can be made by using the two humidity standards; One for high humidity storage conditions (70% RH) and the recommended condition for long term storage (40% RH).

14. Paper structure



15. Sizes available

	Length	Velvet Type H			Velvet Type S
		Box packaging			BULK
Width		50 m (164 ft)	88 m (274 ft)	167.6 m (549 ft)	250 m (820 ft)
10.2 cm (4 in.)				■	
12.7 cm (5 in.)				■	
15.2 cm (6 in.)				■	
22.0 cm (8.6 in.)					■
20.3 cm (8 in.)			■		
25.4 cm (10 in.)			■		
27.9 cm (11 in.)			■		
30.5 cm (12 in.)			■		
50.8 cm (20 in.)			■		
76.2 cm (30 in.) IN	■				
76.2 cm (30 in.) OUT					
127.0 cm (50 in.) IN	■				

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

16. Calibration data

Fujicolor Crystal Archive Professional Velvet Paper

Equipment		Latest Software	Calibration data			
Brand	Name		LUT + Target density RGB	Basic calibration ymcd	Intermittance rgb	Thickness
Frontier	3 series	Installer R	LUT F, Other 1	n.a.	n.a.	n.a.
	5 series	Installer R	LUT J, Other 1			
	7 series	V 4.01	LUT J-4, Other 1			
Noritsu	QSS ~ LPS24Pro	Vol.2 7.20	187	n.a.	n.a.	n.a.
	QSS 35+/37/38	Vol.3 N4.54				
KIS	DKS 15x, 16x, 17x		Printer defines own and highest possible Dmax settings (exposure vs chemistry relation)			
ISAG	Fastprint		1.50 / 1.50 / 1.45	n.a.	n.a.	0.23
	Wideprint 8", 12nG		187	n.a.	n.a.	n.a.
	Wideprint 12"					
ZBE ****	SE, Pro, R2R		1.50 / 1.50 / 1.45	n.a.	n.a.	n.a.
Polielettronica	Laserlab 50/76/127		Printer defines own and highest possible Dmax settings (exposure vs chemistry relation)			
Durst	Epsilon		1.45 / 1.45 / 1.40	0.004 / 0.056 / 0.000 / 0.920	90 / 50 / 37	n.a.
	Zeta					
	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			124.0 / 95.8 / 0.0 / 129.0		
OCE Lightjet	430 / 500XL / 5000 *	Media target can be downloaded from the Fujifilm Europe .eu website				

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

* To be able to calibrate the low Dmax product a special procedure is necessary. Please contact technicalsupport@fujifilm.eu for more details
OCE Lightjet media target location: <https://www.fujifilm.eu/eu/support/photofinishing/color-management>

** When the cut mark will not be detected the initial value for the cut mark ref. reflective media must be adjusted.
In the main Durst Theta software go to: Special - Init Values and Special Theta Control - Cut mark ref. reflective media.
Increase this value to obtain a good cutting condition

*** When using the old generation Chromira Pro Lab processor processing streaks can occur at the end of the print (cross-over rack streaks)

**** Chromira SE and Pro printers can only be used when version numbers are SELab # SE21213 and later or ProLab # PL21207 and later.

17. Use with Frontier

Please refer to the following calibration data as a general guide when using FUJICOLOR CRYSTAL ARCHIVE PROFESSIONAL VELVET PAPER on a digital printer.

All Frontiers requires a dedicated LUT when printing. It is necessary to adjust for the paper type for each paper magazine by changing the paper "Type" specification in the "Paper Magazine Registration" menu.

Registration and Setup of the Paper Type specification on Paper Magazine for Frontier 330/350/370/390 series.

1. Log in to the < 4 Setup and Maintenance > menu with < SE2 > for the user name and password of < 7777 >.
2. Select < 5 Printer Adjustment / Maintenance >, < 1 Paper Magazine Registration > (Menu 451) and change the type to " F " as shown in the table below.

Paper	Type
-----	F, Other 1

3. Select < 2 Print Condition Setup and Check >, < 1 Paper condition Setup > (menu 421) and perform a paper condition setup for all magazines for which the paper type is changed.

It is important to click the "initialize" button to initialize the settings before making the paper condition setup. After initialization the first paper condition setups will deviate by a great degree, but this will be balanced after the second or third attempt.

Registration and Setup of the Paper Type specification on Paper Magazine for Frontier 550/570/590 series

1. Log in to the < 4 Setup and Maintenance > menu with < SE2 > for the user name and password of < 7777 >.
2. Select the < Adjustment / Maintenance >, < 02 Print Condition Setup and Check >, < 0221 Paper Magazine Registration >. Change the paper type to " J " as shown in the table below.

Paper	Type
-----	J, Other 1

3. Click the < Setup and Maintenance >, < 02 Print condition Setup and Check > , < 0200 Paper Condition Setup > and perform a paper condition setup for all magazines for which the paper type is changed.

It is important to click the "initialize" button to initialize the settings before making the paper condition setup. After initialization the first paper condition setups will deviate by a great degree, but this will be balanced after the second or third attempt.

Registration and Setup of the Paper Type specification on Paper Magazine for Frontier 750/790 series

1. On the Maintenance Application display, click the [maintenance] to access the Maintenance display. Click [Extension] – [Setup] – [Laser Setup] – [Paper Specification Registration/Setup].
2. Select the paper type " J-4 " as shown in table below:

Paper	Type
-----	J-4, Other 1

Follow the instructions on the Paper Specification registration / set up. Make the test prints and register the measurement results.

18. Velvet Type S ; Photobook production

Recommended equipment for photobook making is:

ISAG fastBook



ISAG fastBlock 03/04/05



In general:

For an optimal result the equipment to be used should be maintained properly.

- Processor rollers, bearings, squeezers, dryer (temperature)
- Clean glue head, glue head spacing, transport rollers.
- Correct settings for book block thickness.

19. Technical Support

In case abnormalities are found when using this FUJICOLOR CRYSTAL ARCHIVE PROFESSIONAL VELVET 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

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