

FUJIFILM

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PRODUCT INFORMATION BULLETIN

Color negative paper

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 Velvet paper has a unique smooth deep-matte surface design. The Velvet surface design 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 very suitable to expose the fine art photos even under high lighting conditions. Reason is that the light reflection will be minimized by the Velvet surface. The Velvet paper can also be used for photo book application. The emulsion technology is similar to the Fujicolor Crystal Archive DPII papers. Therefore Velvet fine art images will reproduce enhanced color reproduction, white purity and excellent image stability. 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 an unique deep-matte surface for impressive display image 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 reflection |

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.

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.

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) |
|-----------------------------------|-----------------|---------------|----------------|
| 10.2cm*186 m (4 in. x 610 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. 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 ControlStrips Process CP-48S/49E

6. Post –processing print handling / storage

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 changeover 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 Prints Storage

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

*Made of polyester, polystyrene or polypropylene plastic, etc

- 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).

- 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 will 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 3664-2000. 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 only available with the unique deep-matte surface.

Currently only professional thickness version available: Type H (heavy); 240um.

9. Sizes available

| | Box packaging | | |
|-------------------|---------------|----------|----------|
| | 50 m | 83.8 m | 167.6 m |
| Length | 50 m | 83.8 m | 167.6 m |
| Width | (164 ft) | (274 ft) | (549 ft) |
| 15.2 cm (6 in.) | | | ■ |
| 20.3cm (8 in.) | | ■ | |
| 25.4cm (10 in.) | | ■ | |
| 27.9 cm (11 in.) | | ■ | |
| 30.5 cm (12 in.) | | ■ | |
| 50.8 cm (20 in.) | | ■ | |
| 76.2 cm (30 in.) | ■ | | |
| 106 cm (41.7 in.) | ■ | | |
| 127 cm (50 in.) | ■ | | |

Note: Size availability may change without prior notice.

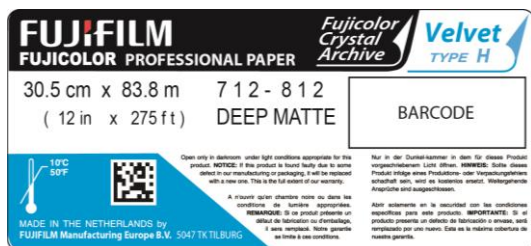
10. Markings (Box/Emulsion numbers)

10.1 Box markings



“+” indication means that at least 1 spliced babyroll is packed and or a different production control roll number having same photographic properties.

10.2 Bag labelling



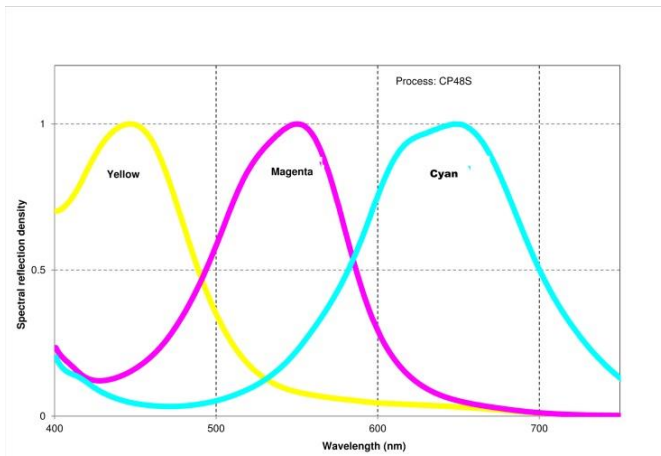
“+” indication means that a splice is present in the babyroll.

10.3 Emulsion numbers

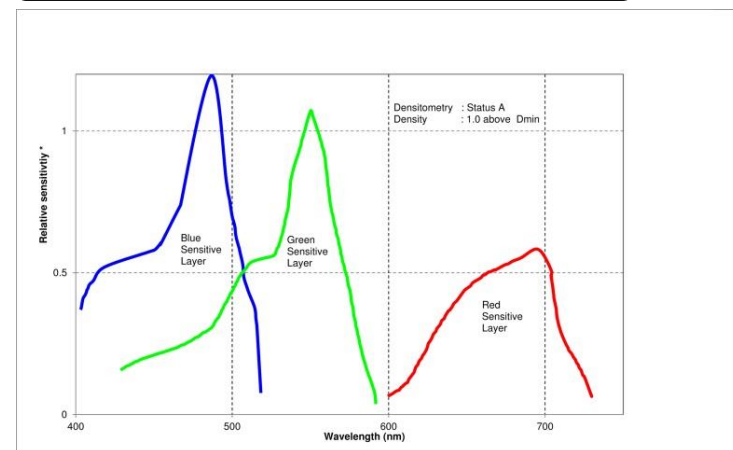
Emulsion numbering will be in ascending order from 7** at introduction.

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

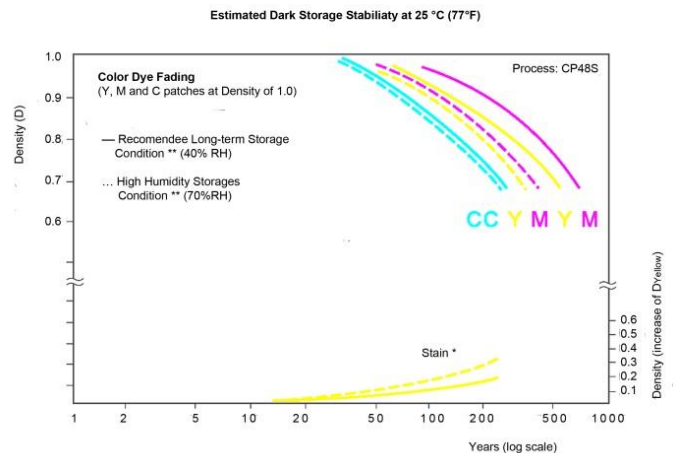
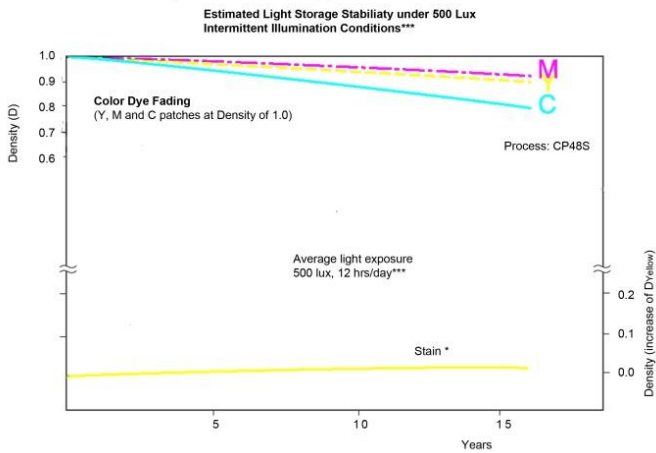


12. Spectral sensitivity curves



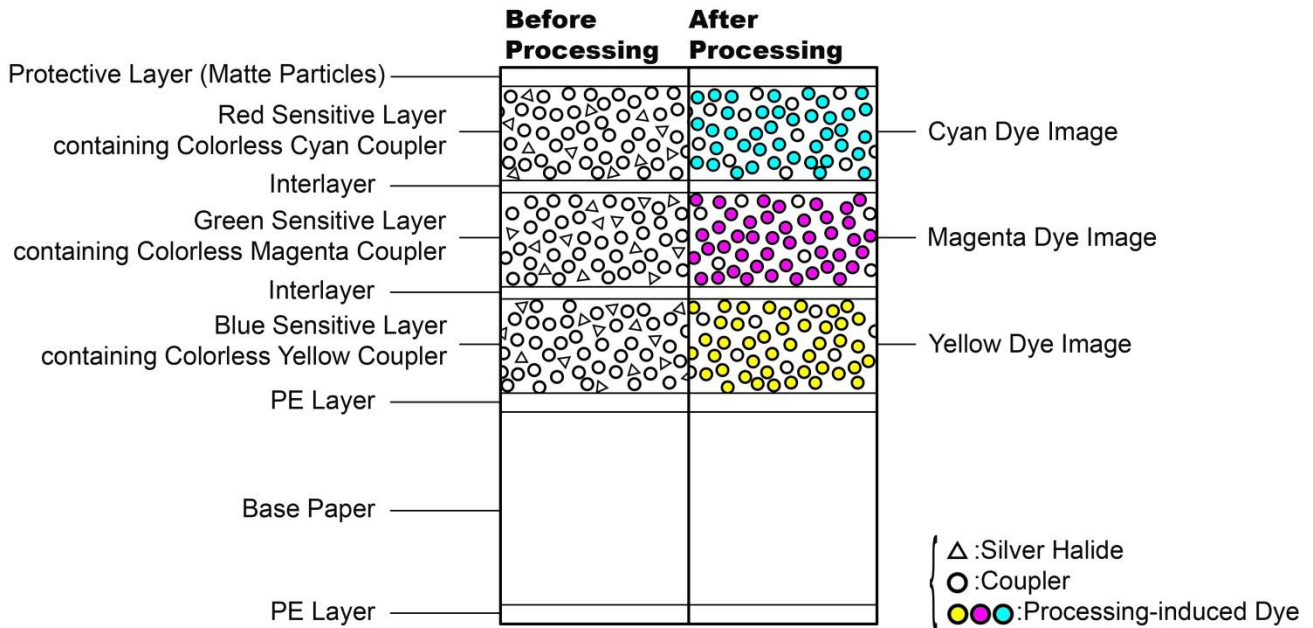
* Sensitivity equals the reciprocal of the exposure (J/cm²) requires to produce a specified density

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 that recommended for long-term storage (40%RH).
- *** Since in common domestic situations sunlit areas may be bright as 1,000 lux or more during the day and drop to 300 lux in the evening and at night, storage conditions are usually designated to be at an average of 500 lux of light exposure for 12 hours per day.

14. Paper structure



15. Calibration data

| Equipment | | Software | Calibration data | | | |
|---|----------------------|---|---|-------------------------------|-------------------|-----------|
| Brand | Name | | LUT + Target density RGB | Basic calibration ymcd | Intermittance rgb | Thickness |
| | | | Deep Matte | | | |
| 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 | Vol.3 N 4.54 | 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 N 4.54 | | | | |
| Agfa | DLab 1, 2, 3 | | 1.50 / 1.50 / 1.50 | 0.97 / 1.00 / 1.02 | | |
| KIS | DKS 15x, 16x, 17x | | Printer defines own and highest possible Dmax settings (exposure vs chemistry relation) | | | |
| ISAG | Fastprint | | 1.50 / 1.50 / 1.50 | 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 / 1.50 | n.a. | n.a. | n.a. |
| Polieletronica | Laserlab 50/76/127 | | Printer defines own and highest possible Dmax settings (exposure vs chemistry relation) | | | |
| Durst | Epsilon | | 1.50 / 1.50 / 1.50 | 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: http://www.fujifilm.eu/eu/support/photofinishing/color-management/ICC Profile for Oce Lightjet | | | | | | |
| ** 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 | | | | | | |

16. Use with Frontier

Please refer the installation manual for calibrating FUJICOLOR CRYSTAL ARCHIVE Professional Velvet PAPER on a digital printer.

17. 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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