AF3-190U2

FUJIFILM

PRODUCT INFORMATION BULLETIN

COLOR NEGATIVE PAPERS

FUJICOLOR CRYSTAL ARCHIVE PAPER TYPE II

1. USES AND FEATURES

FUJICOLOR CRYSTAL ARCHIVE PAPER TYPE II is a silver halide color paper designed to produce high image quality color prints on both analog and digital printers. This paper incorporates new silver halide emulsion technology, coupler technology and layer design technology to deliver enhanced color reproduction, white purity, image stability and handling. Crystal Archive Type II can be used with all Frontier series and high speed digital printers.

Features

• **More Vivid Color Reproduction**	Retains beautiful colors such as subtle shades of green, vivid blues and reds
• **More Brilliant Whites plus Improved Highlight Details**	Further improved whiteness, with clearer and more distinct highlight details
• **Excellent Image Stability**	Exhibits high image stability during long-term dark storage and excellent light storage stability, as well as sharply improved storability with respect to nitrogen oxide, ozone and other gases
• **Improved Handling Characteristics**	Improved tolerance for processing unevenness and pressure-induced density variations that sometimes occur
• **High productivity**	Realizes high productivity when used in conjunction with the Frontier 570.

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 Wratten Safelight Filter No. 13 (or Fuji Safelight Filter No. 103A) 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 the 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 frozen or refrigerated 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)
10.2 cm x 185.9 m (4 in x 610 ft)	6	5	3.5

NOTES:
- Do not heat paper in order to equalize temperatures.
- Remove paper from refrigeration on day before use.

- If exposed paper remains unprocessed and 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

5. CONTROL STRIPS

Processing control can be provided through the use of FUJICOLOR CRYSTAL ARCHIVE PAPER Control Strips - Process CP-40FA/43FA/47L/48S/49E.

6. POST-PROCESSING PAPER (PRINT) HANDLING / STORAGE

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 over time. Unfortunately the effects of light, heat, oxygen in the air, contaminating gases, humidity and mold cannot be completely avoided. It is possible, however, to minimize the change in the photographic image or base material 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.

- **Notes on Print Storage**

① Prints should be inserted into albums, mounted, or placed into a bag (plastic*) for photographic prints before being stored.
*Made of polyester, polystyrene, polyethylene, 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 sunlight and other strong light or 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. For this reason, prints should be stored with their front surfaces facing away from each other. If the adjacent print placement is unavoidable, it is necessary to keep the surfaces separated by, for example, the use of interleaving sheets of paper.

7. LIGHT SOURCES FOR VIEWING PRINTS

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. As a general guide, the following conditions are recommended.

Color Temperature	**: 5000 ± 300 K**
Average Illumination	**: 500 Lux or more**
Color Rendering Index	**: CRI 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. CALIBRATION DATA FOR PRINTERS

Frontier Printers

All Frontiers require 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.

Frontier Series	LUT Ver. R
Frontier 3xx	Paper Type H
Frontier 5xx	Paper Type H

Registration and Setup of the Paper Type specification on Paper Magazine for Frontier 700 series

Frontier Series	Profile Ver. F1.23 *
Frontier 7XX Series	LUT H-1 Glossy / Lustre LUT H-2 Matte

* Included with system Ver. 3.20

Noritsu Printers

Use paper registration number 142

Current profile data is available via your local Noritsu distributor

For 31,32,34 & LPS -24 Pro Series Models
Noritsu Profile CD Part# R504969-01 Vol 2 Version 7.14 (Older 2901 & 3001 Series Need to be on System J001)

For QSS 35+ (LPP900) & 37 / 37HD Series Models
Profile CD Part# R504970-01 Vol. 3 Version N 3.01

Agfa D-Lab Printers

Dmax Aim			Cal Factor		
R	G	B	R	G	B
2.12	2.18	2.05	1.00	.99	.98

9. PAPER SURFACES AVAILABLE

Glossy - Lustre - Matte

10. PAPER SIZES AVAILABLE

Rolls

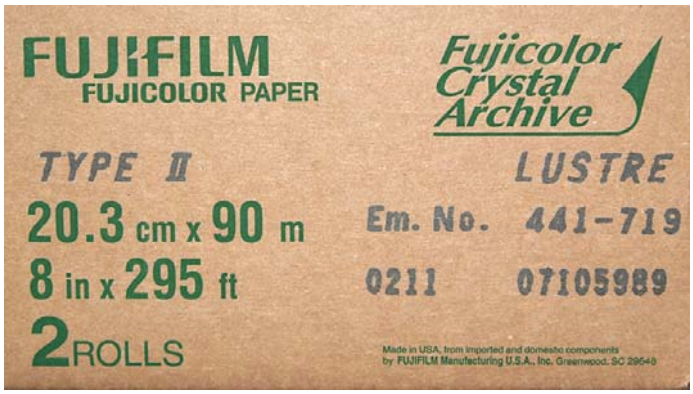
Widths \ Lengths	295'	610'	1150'	1750'
4 in.		●		●
5 in.		●	●	
6 in.		●		
8 in.	●	●		
10 in.	●	●		
11 in.	●			
12 in.	●			

Cut Sheets

Box Size \ Sheet /	50 Sheet	100 Sheet
8x10		●
11x14		●
16x20	●	
20x24	●	

11. MARKINGS / MATERIAL LABEL

11.1 Box Printing



11.2 Bag Label

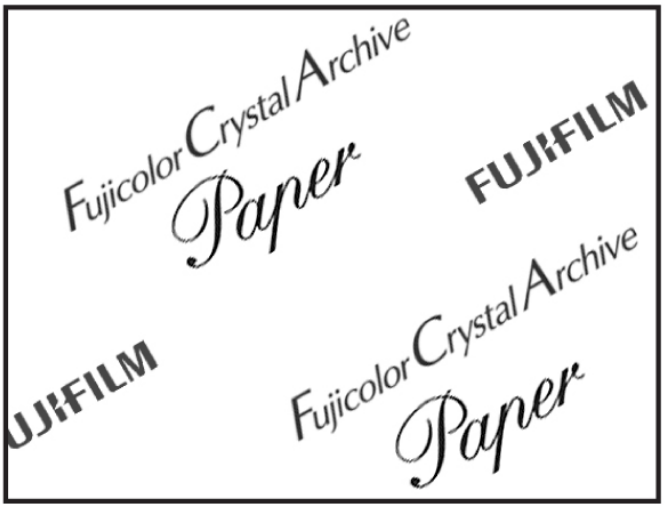
11-3 Emulsion Numbers

Emulsion numbering will be in ascending order from 2xx - 4xx

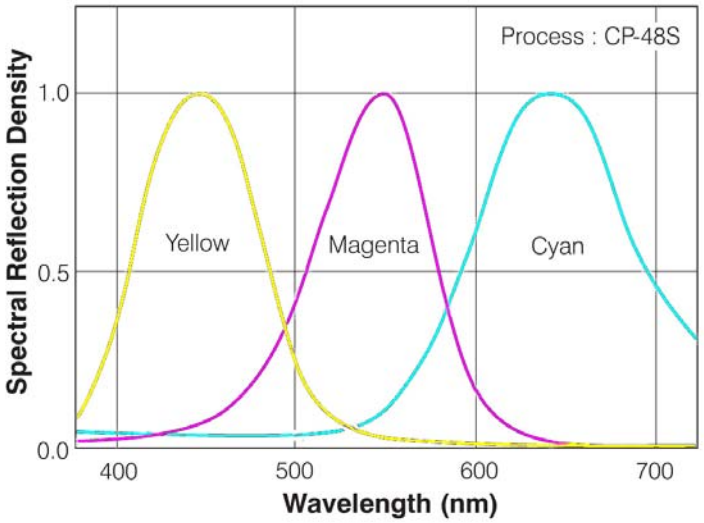
NOTE:

◊ FUJICOLOR paper is marked with a three-digit emulsion number followed by an additional three-digit number, which is provided for production control purposes only. Should any problems arise with FUJICOLOR CRYSTAL ARCHIVE PAPER TYPE II, the additional three-digit number suffix to the emulsion number should be indicated on any claim.

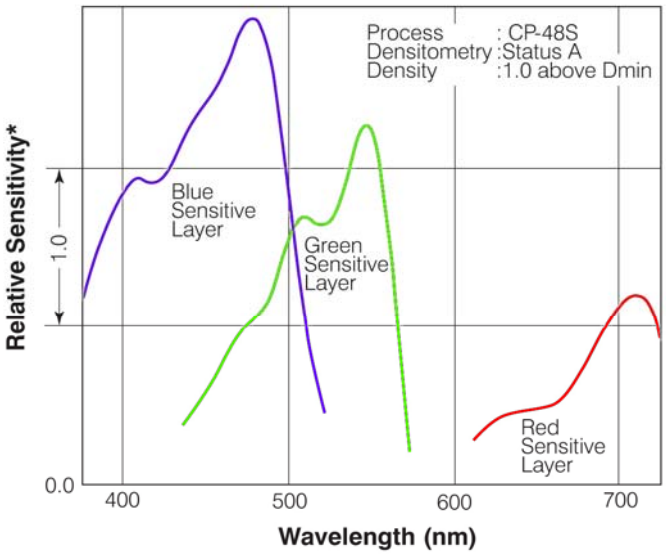
11.4 Back Printing



12. SPECTRAL DYE DENSITY CURVE



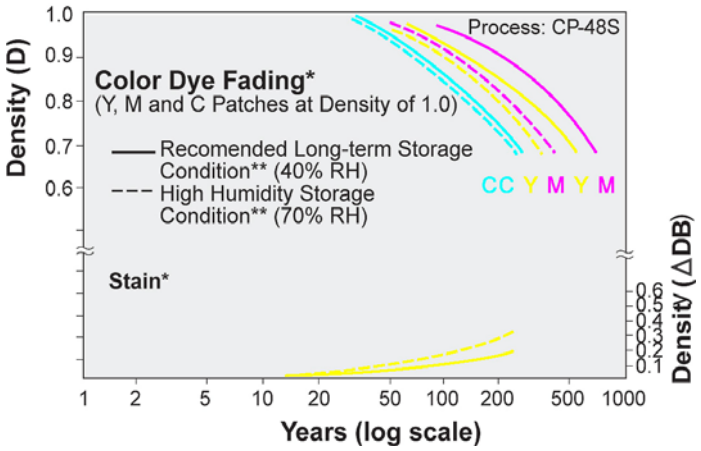
13. SPECTRAL SENSITIVITY CURVES



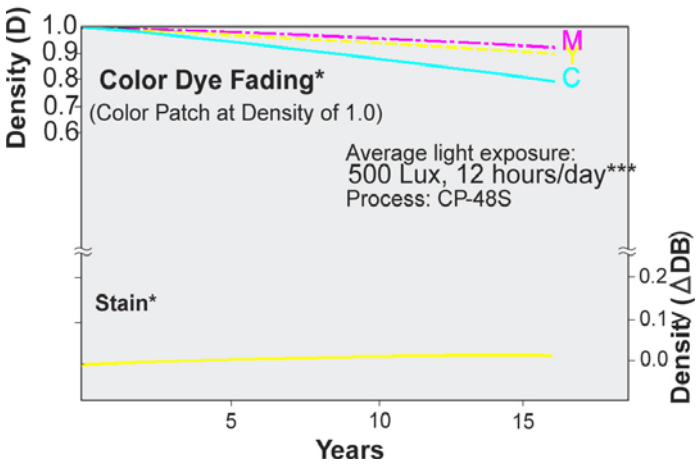
* Sensitivity equals the reciprocal of the exposure (J/cm^2) required to produce a specified density.

14. IMAGE STORAGE CHARACTERISTICS

- **Estimated Dark Storage Stability at 25 ℃ (77 ℉)**



- **Estimated Light Storage Stability under 500 Lux Intermittent Illumination Conditions*****

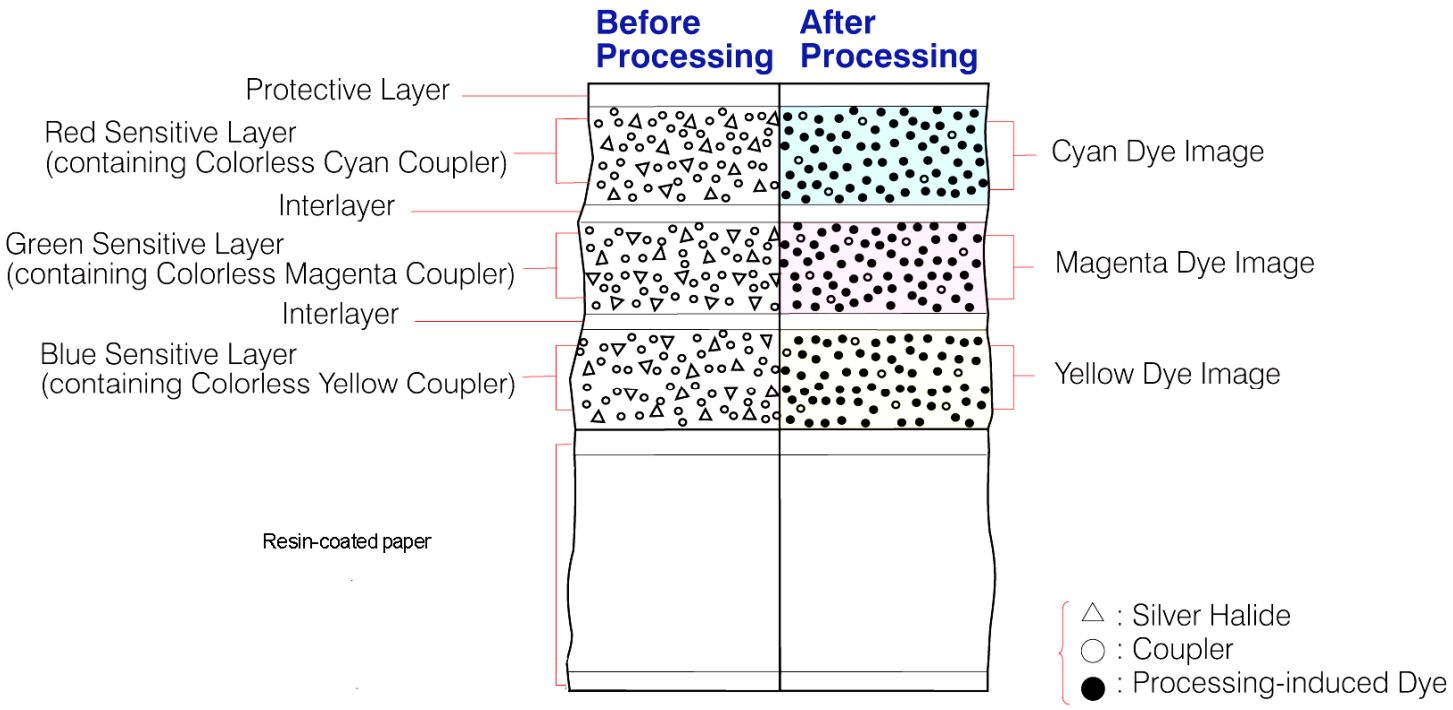


*Time-induced white background staining (yellowing) is as important as dye image fading in affecting image quality.

** 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.

15. PAPER STRUCTURE



NOTE: The data herein published were derived from materials taken from general production runs. However, changes in specifications may occur without prior notice.

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