

# PRODUCT INFORMATION BULLETIN

COLOR NEGATIVE PAPERS

## FUJICOLOR CRYSTAL ARCHIVE DIGITAL PAPER

## TYPE DP II

### 1. FEATURES AND USES

FUJICOLOR CRYSTAL ARCHIVE DIGITAL PAPER TYPE DP II is a silver halide color paper designed exclusively for digital output. When used in conjunction with medium- or large-scale digital printer systems or the FUJI DIGITAL MINILAB FRONTIER, this paper yields high-image-quality digital prints that make it suitable for such professional uses as portrait or commercial photography.

#### Features

- **High D-max** ..... Boasts a wide tonal range, producing high-image-quality prints with a rich textural quality
- **Purer Whiteness** ..... Clearer, more distinct print images and sharper text quality
- **Vibrant Color Reproduction** ..... Expanded color reproduction range with high color saturation, ideally suited to commercial use
- **Excellent Latent Image Stability** ..... Stable production of more uniform high-quality prints for greater productivity
- **Excellent Image Stability** ..... Highest level of image stability ideal for display purposes

### 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 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 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

Paper Size	Storage Temperature	-20°C (-4°F)	0°C (32°F)	10°C (50°F)
	<b>127 cm x 50 m (50 in. x 164 ft.)</b>		12	10

- NOTES**
- Do not heat paper in order to equalize temperatures.
  - Remove paper from refrigeration on 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. USE WITH FRONTIER 3\*\*/5\*\*/7\*\*

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

All Frontiers requires a dedicated LUT when printing. This dedicated LUT is available on installer A3, version J and higher. For availability of this CD, please contact your local distributor.

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.

##### <Changing Paper Type Specification of Paper Magazine for Frontier 330/350/370/390>

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

Paper	Type
CRYSTAL ARCHIVE PAPER	I

- 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 types were 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. *(Please note that clicking the "Initialize" button will not be possible if you do not log in with a user name of lab administrator or higher.)*

##### <Changing Paper Type Specification of Paper Magazine for Frontier 340/355/375/550/570/590>

- 1 Log in to the "Setup and Maintenance" with the Password "7777".
- 2 Click the [Setup and Maintenance] – [02 Print Condition Setup and Check] – [0221 Paper Magazine Registration]. Change the paper type to "I" as shown in the table below.

Paper	Type
CRYSTAL ARCHIVE PAPER	I

- 3 Click the [Setup and Maintenance] – [02 Print Condition Setup and Check] – [0200 Paper Condition Setup] buttons and perform a paper condition setup for all magazines for which the paper types were 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. *(Please note that clicking the "Initialize" button will not be possible if you do not log in with a user name of lab administrator or higher.)*

#### 5. CALIBRATION DATA FOR PRINTERS

Please refer to the following calibration data as a general guide when using the FUJICOLOR CRYSTAL ARCHIVE DIGITAL PAPER TYPE DPII on a large-format digital printer.

##### 1. Durst Lambda

Dmax. Aim	Basic Calibration
R =2.35	Y =124.0
G =2.35	M =95.8
B =2.25	C =0.00
	D =129.0

##### Durst Theta 50/51

Dmax. Aim	Basic Calibration
R =2.35	Y =170.7
G =2.35	M =112.0
B =2.25	C =0.00
	D =104.3

##### Durst Theta 76

Dmax. Aim	Basic Calibration	Intermittency
R =2.30	Y =0.006	R =101
G =2.30	M =0.085	G = 56
B =2.20	C =0.000	B = 42
	D =1.325	

##### Durst Epsilon 30 Plus

Dmax. Aim	Basic Calibration	Intermittency
R =2.30	Y = 0.004	R = 90
G =2.30	M = 0.056	G = 50
B =2.20	C = 0.000	B = 37
	D = 0.920	

2. The calibration targets for the OCE Lightjet 430, 500XL and 5000 printers can be downloaded from the following URLs (websites).

[http://www.oce-dgs.com/PrinterSupport/LJ\\_Customer\\_Access/LJ\\_Customer\\_Access.htm](http://www.oce-dgs.com/PrinterSupport/LJ_Customer_Access/LJ_Customer_Access.htm)

[ftp://ftp.cymbolic.com/Downloads/Photo/Media%20Targets/LightJet430\\_500XL\\_&\\_5000/LightJet-Fusion/](ftp://ftp.cymbolic.com/Downloads/Photo/Media%20Targets/LightJet430_500XL_&_5000/LightJet-Fusion/)

**6. PROCESSING**

This paper is designed for use with Fuji Hunt CP-RA Process, Fuji MINILAB Process CP-49E/CP-48S or RA-4 type processes.

**7. POST-PROCESSING PAPER (PRINT) HANDLING/STORAGE**

Prints are subjected to various influences (heat, humidity, light, air pollution, etc.) relative to the conditions under which they are stored. The general conditions under which prints are stored are outlined below.

- Recommended Storage Conditions:  
 Temperature: Below 25°C (77°F)  
 Humidity: 30% to 50% RH with good ventilation
- Extended Storage Conditions:  
 Temperature: Below 10°C (50°F)  
 Humidity: 30% to 50% RH

**8. 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 3664-2000. 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.

**9. PAPER SURFACES AVAILABLE**

Glossy, Matte, Luster and Silk

**10. SIZES AVAILABLE**

• Rolls

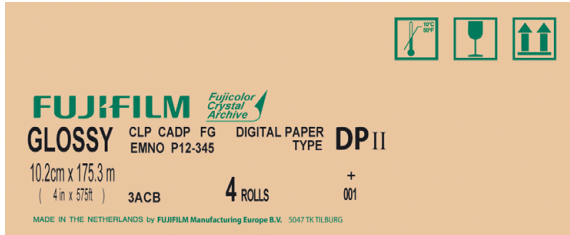
Length \ Width	50 m	83.8 m	175.3m
10.2 cm			●
12.7 cm			●
15.2 cm			●
17.8 cm		●	●
20.3 cm		●	●
21.0 cm		●	●
25.4 cm		●	
30.5 cm		●	
40.6 cm		●	
50.8 cm		●	
76.2 cm	●		
106 cm	●		
127 cm	●		

**11. CONTROL STRIPS**

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

**12. MARKINGS (BOX/EMULSION NUMBERS)**

**12-1 Box Markings**



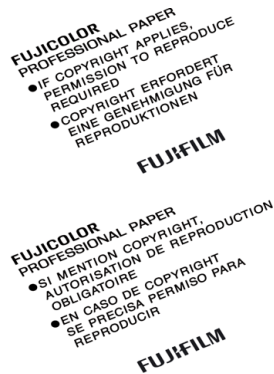
**12-2 Bag Labeling**



**12-3 Emulsion Numbers**

Emulsion numbering will range between P01- P99 (with backprinting) and Q01- Q99 (without backprinting).

**13. BACKPRINTING**



**14. TECHNOLOGIES INCORPORATED IN THIS PAPER**

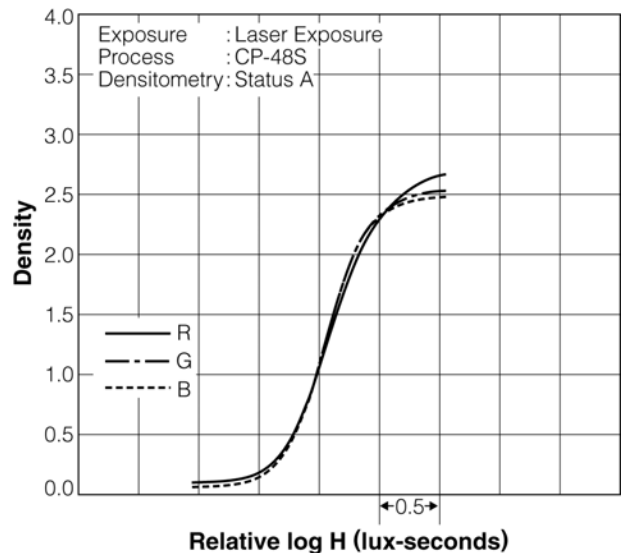
**14-1 X-Coupler Technology**

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

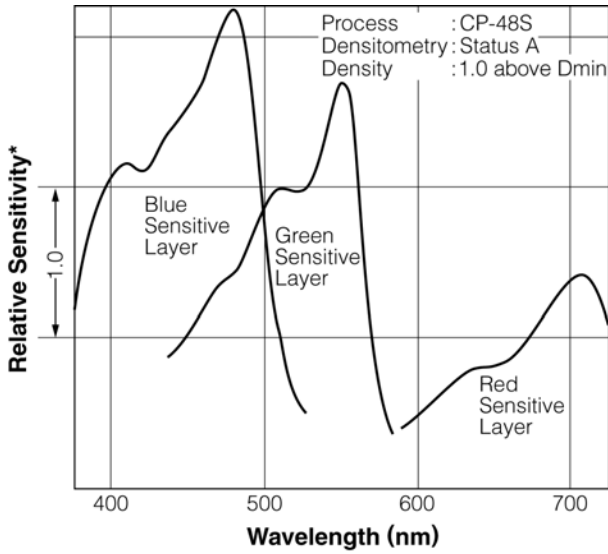
**14-2 NLS (New Low Stain Spectral Sensitizer) Technology and ARR (Advanced Resistance-to-Radiation) Technology**

In addition to WE (White Enhancing) Technology used in FUJICOLOR CRYSTAL ARCHIVE DIGITAL PAPER TYPE DP, the FUJICOLOR CRYSTAL ARCHIVE DIGITAL PAPER TYPE DP II has incorporated NLS Technology, which is Fujifilm's LSS Technology taken to a higher level. The results are more brilliant, purer whites and clearer and more distinct highlights. In addition, ARR Technology, an advance over the previous RR Technology, has been incorporated to suppress color paper fogging caused by ambient radiation, enhancing the maintenance of white purity in unexposed color paper.

**15. CHARACTERISTIC CURVES**

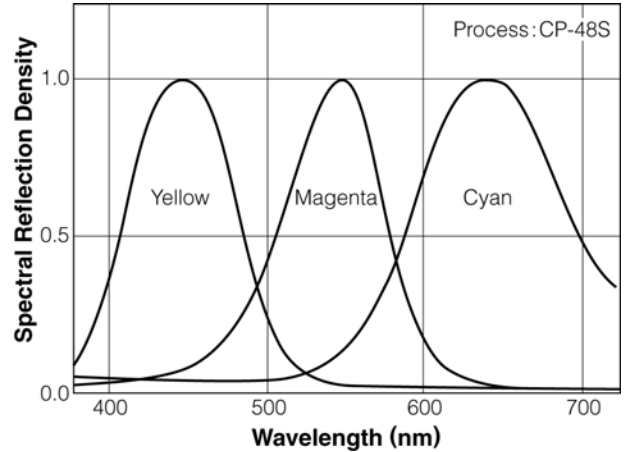


**16. SPECTRAL SENSITIVITY CURVES**



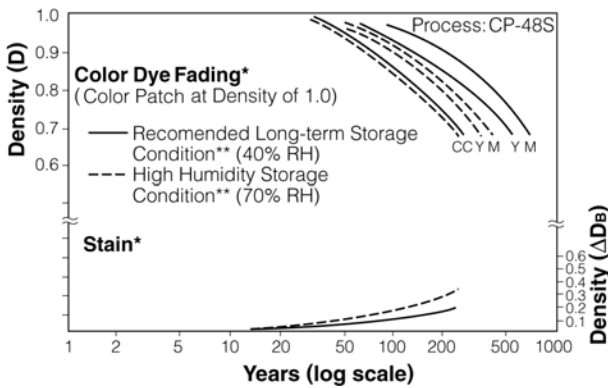
\* Sensitivity equals the reciprocal of the exposure (J/cm<sup>2</sup>) required to produce a specified density.

**17. SPECTRAL DYE DENSITY CURVES**

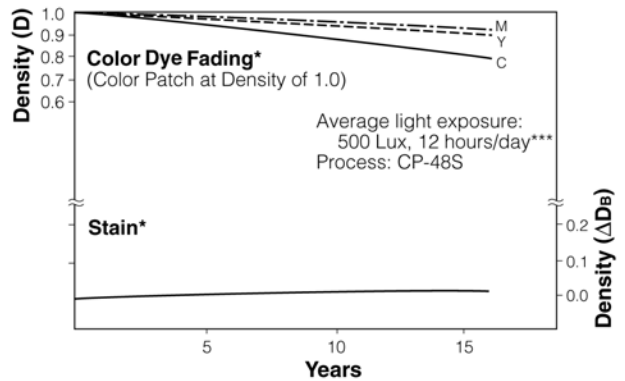


**18. IMAGE STORAGE CHARACTERISTICS**

• **Estimated Dark Storage Stability at 25C (77F)**



• **Estimated Light Storage Stability under 500 Lux Intermittent Illumination Conditions\*\*\***

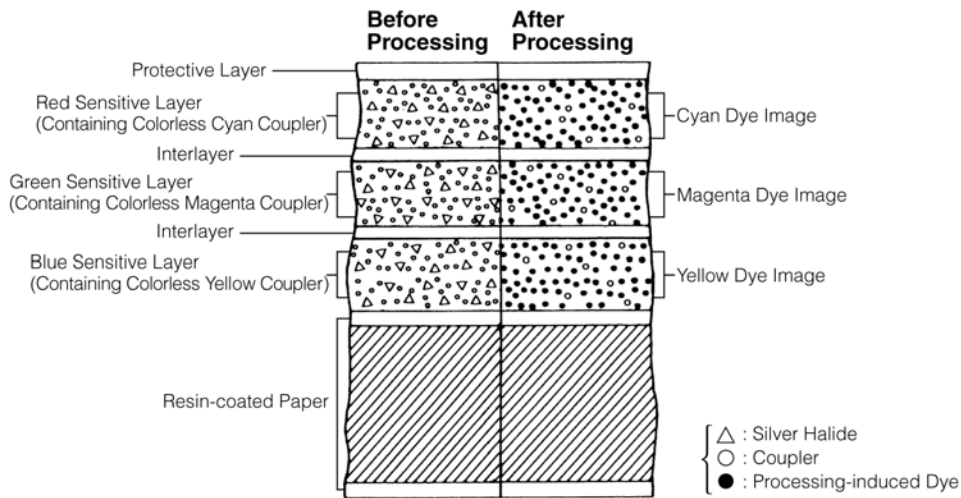


\* Time-induced white background staining (yellowing) is as important as dye image fading in affecting image quality.

\*\* 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.

**19. PAPER STRUCTURE**



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