

# FUJICOLOR CRYSTAL ARCHIVE PROFESSIONAL PAPER SUPER TYPE C

## 1) FEATURES AND USES

The New FUJICOLOR CRYSTAL ARCHIVE PROFESSIONAL PAPER SUPER TYPE C is a silver halide color paper designed for use with both digital and conventional exposure systems. This paper yields high-image-quality professional & commercial prints from medium and large format digital printers and Fujifilm Digital Minilab Frontier systems.

It is suitable for a wide variety of uses, such as large-sized displays, advertisements, and photo exhibitions.

### FEATURES

- **Purer Whites Plus Improved Highlight Detail** ..... Further improved whiteness, with clear and more distinct highlight details and sharper text quality.
- **Accurate Color Reproduction** ..... Clean uncontaminated colors with higher saturation, resulting in output with sharper crisp appearance.
- **Excellent Latent Image Stability** ..... Improved latent image stability and tolerance for processing unevenness and pressure induced density variations that sometimes occur, makes this paper easier to handle in the lab.
- **Excellent Image Stability** ..... Excellent light storage stability, ideal for display, high image stability during long-term dark storage, as well as sharply improved stability with respect to nitrogen oxide, ozone and other gasses.

## 2) SAFE LIGHT

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 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 50°F (10 °C)

- 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 -4°F (-20°C)	32°F (0°C)	50°F (10°C)
4 in x 575 ft. (10.2 cm x 175.0 m)	8	6	4
20 in x 275 ft. (50.8 cm x 83.8 m)	10	8	6
50 in x 164 ft. (127 cm x 50 m)	12	10	7

- 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) CALIBRATION DATA FOR PRINTERS**

Please refer to the following recommended starting values as a general guide when using the New FUJICOLOR CRYSTAL ARCHIVE PROFESSIONAL PAPER SUPER TYPE C on a large-format digital printer.

**1. Durst Lambda**

D-Min	D-Max
R = 0.09	R = 2.45
G = 0.09	G = 2.35
B = 0.06	B = 2.30

**2. ZBE Chromira**

D-Min	D-Max
R = 0.09	R = 2.30
G = 0.09	G = 2.25
B = 0.06	B = 2.20

**3. The calibration targets for the OCE Lightjet 430, 500XL and 5000 printers can be downloaded from the following URLs (web sites).**

[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/)

**5) PROCESSING**

This paper is designed for use with Fuji Hunt CP-RA Fujifilm Minlab process CP-48S, CP-49E or RA-4 type processes.

**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, but 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. 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 50°F (10°C)	30%-50%
10-20 years	Below 77°F (25°C)	30%-50%

**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, 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**

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.

**8) PAPER SURFACES AVAILABLE**

Glossy (G) and Matte (M)

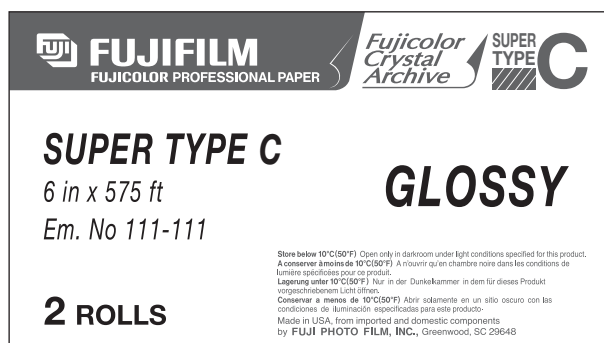
## 9) SIZES AVAILABLE

### • Rolls

Lengths Width	100	164	275	575
4				G,M
5				G,M
6				G,M
8			G,M	
8.5				
10			G,M	G,M
10 Bulk				G,M
11			G,M	
12			G,M	
16			G,M	
20			G,M	
24			G,M	
30	G,M	G,M		
32		M		
40	G,M	G,M		
50	G,M	G,M		
60	M			

## 10) MARKINGS (BOX/EMULSION NUMBERS)

### 10-1 Box Labeling



### 10-2 Emulsion Numbers

Emulsion numbering will range between 126-199.

## 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) BACKPRINTING



## 13) TECHNOLOGIES INCORPORATED IN THIS PAPER

### 13-1 X-Coupler Technology

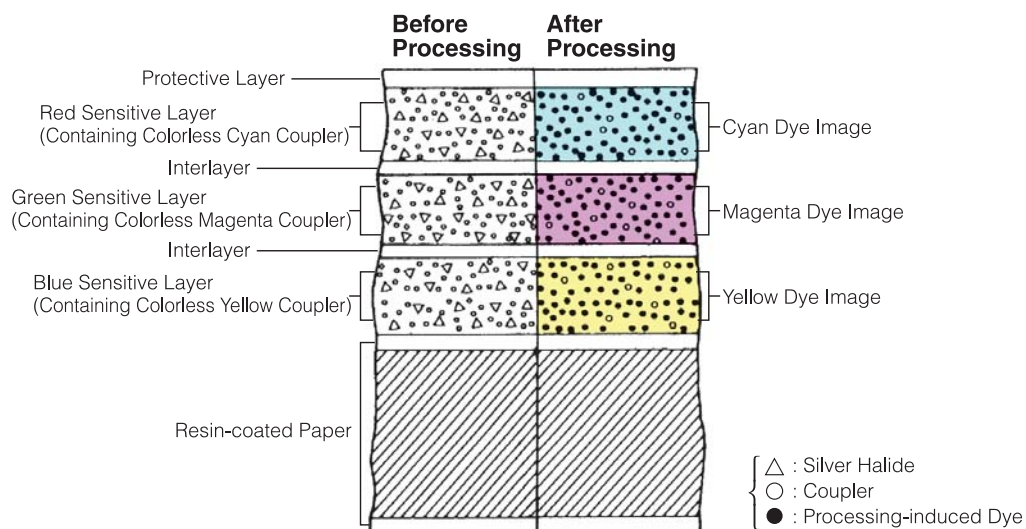
Through the incorporation of a new cyan coupler (X-Coupler Technology), which features a new molecular structure developed by Fujifilm's proprietary technologies, this paper is capable of reproducing the subtle shades of green and of forming colors of high purity, such as vibrant blues and reds.

### 13-2 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 LASER PAPER FOR PROFESSIONALS, the New FUJICOLOR CRYSTAL ARCHIVE LASER PAPER FOR PROFESSIONALS 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.

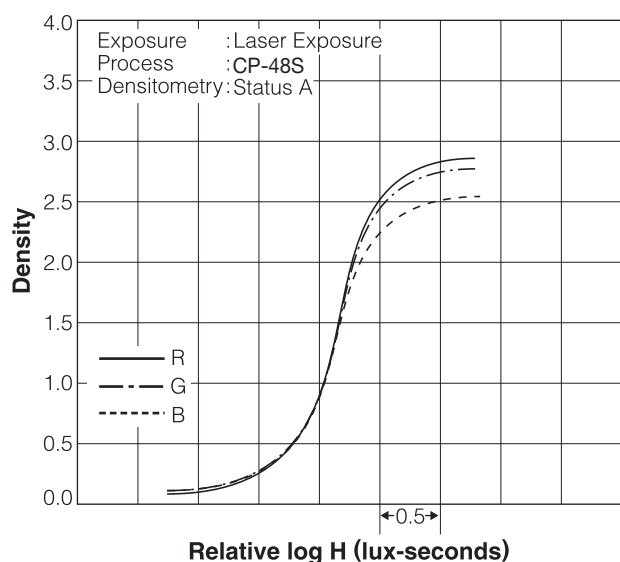
## 14)

## PAPER STRUCTURE



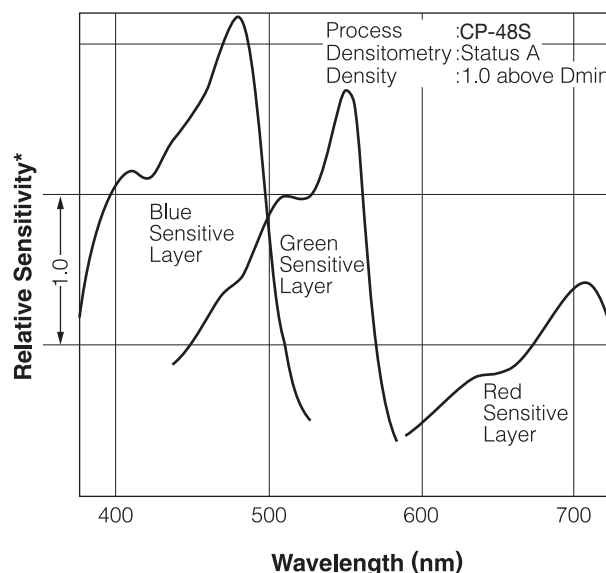
## 15)

## CHARACTERISTIC CURVES



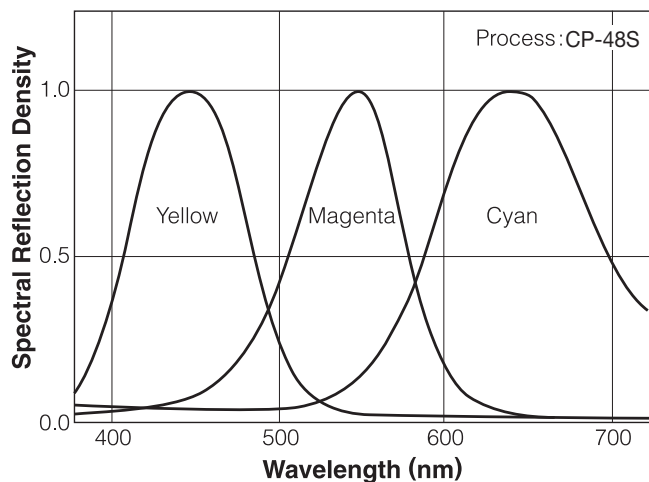
## 16)

## SPECTRAL SENSITIVITY CURVES



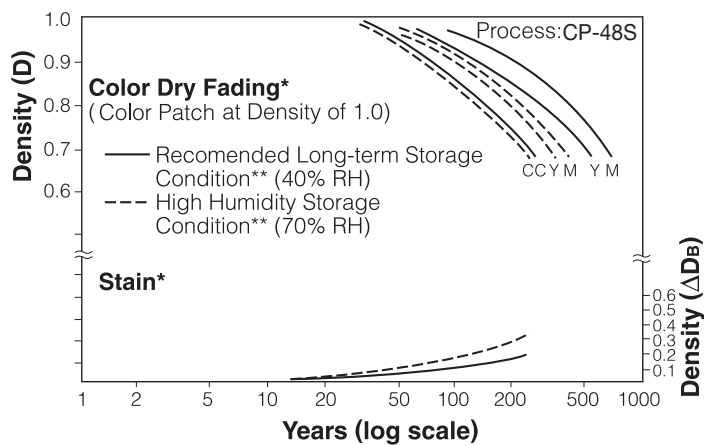
\* Sensitivity equals the reciprocal of the exposure (J/cm<sup>2</sup>) required to produce a specified density.

## 17) SPECIAL DYE DENSITY CURVES

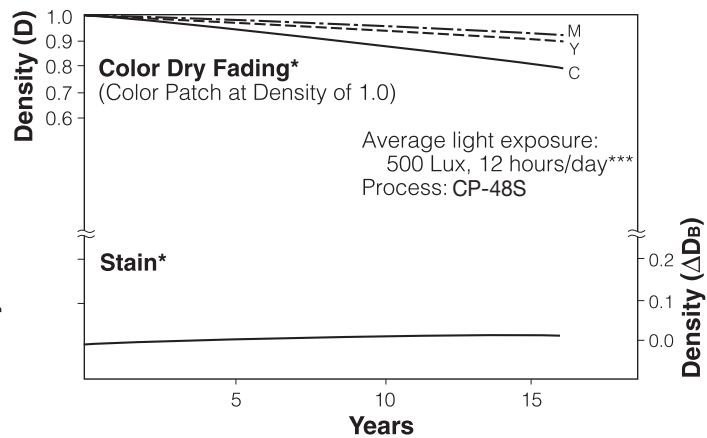


## 18) IMAGE STORAGE CHARACTERISTICS

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



### • 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.

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