

Product Information Bulletin

FUJIFLEX Crystal Archive Printing Material



1. Features and uses

The FUJIFLEX CRYSTAL ARCHIVE PRINTING MATERIAL is a silver halide color printing material with enhanced laser scanning exposure suitability, designed exclusively for digital output on large-format digital printers. This printing material yields high-image-quality digital prints when used with a laser printer. Furthermore, because of its PET base, this printing material produces prints that are superbly smooth with a sharp, transparent finish.

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

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
- **Remarkable Surface Smoothness and Flatness** Produces prints with a mirror-like super gloss and great clarity
- **PET Base** Thickness: 175µm

2. Safelight

Handle in total darkness. If safelight use is unavoidable, observe the following precautions.

- Expose material 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 fogging is detected.
- Exposed material is susceptible to safelight-induced sensitivity increases in the exposed area. For this reason, exposed material should be subjected as little as possible to safelight illumination.

3. Pre-processing paper handling/storage

- The higher the temperature and humidity, the more material, whether unused, unexposed or exposed, is susceptible to adverse changes in speed, color balance, physical characteristics and other properties. Unprocessed material is best stored at low temperatures. Specifically, the following conditions should be used for material 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 material 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 material is taken out of its packaging immediately after being removed from refrigerated storage, condensation will form on the material surfaces, resulting in print color changes and easily damaged surfaces. The shortest periods required to return freezer- or refrigerator-stored material to room temperature (minimum temperature equalization periods) are as follows.

20 °C (68 °F) Temperature Equalization Periods

Unit: hours

Material Size	Storage Temperature	-20 °C (-4 °F)	0 °C (32 °F)	10 °C (50 °F)
	127 cm × 40 m (50 in. × 131 ft.)		9.5	8

- NOTES**
- Do not heat printing material in order to equalize temperatures.
 - Remove printing material from refrigeration on day before use.
- If exposed material 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 material. Rather than holding the material for processing the next day, initiate processing as soon as possible.

4. Calibration data for printers

Please refer to the following calibration data as a general guide when using the FUJIFLEX CRYSTAL ARCHIVE PRINTER MATERIAL on a large format digital printer.

When using the print material for the first time a section of the material should be flashed to light and processed normally. Starting D-max aims should be set approximately .15 to .20 below the flashed black density readings. Check fine black text for any color flare as an indication of aims being too high or a possible processing problem.

1. Durst Reference data

Lambda 130

D-Max	Basic Calibration
R=2.55	Y=79.86
G=2.50	M=21.25
B=2.35	C=0.00
	D=139.82

Theta 50

D-Max	Basic Calibration
R=2.55	Y=134.09
G=2.50	M=83.61
B=2.35	C=0.00
	D=111.31

Epsilon 30 Plus

D-Max	Intermittency	Basic Calibration
R=2.55	R=53.1	Y=134.09
G=2.50	G=12.4	M=83.61
B=2.35	B=17.2	C=0.00
		D=111.31

2. Océ Reference Data

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

Media targets OCE Lightjet 5000:

https://dgs.oce.com/PrinterSupport/LJ_Customer_Access/Media_Targets/LJ5000_MediaTargets.htm

Media targets for 430 and 500XL:

https://dgs.oce.com/PrinterSupport/LJ_Customer_Access/Media_Targets/LJ430andLJ500XL_MediaTargets.htm

3. ZBE Reference Data

Chromira

for standard developer

D-Max
R=2.35
G=2.25
B=2.20

for digital developer

D-Max
R=2.40
G=2.30
B=2.25

5. Processing

This material is designed for use with Fuji Hunt CP-RA Process or RA-4 type processes.

6. Post-processing material (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

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. Surface available

Super Glossy

9. Sizes available

● Rolls

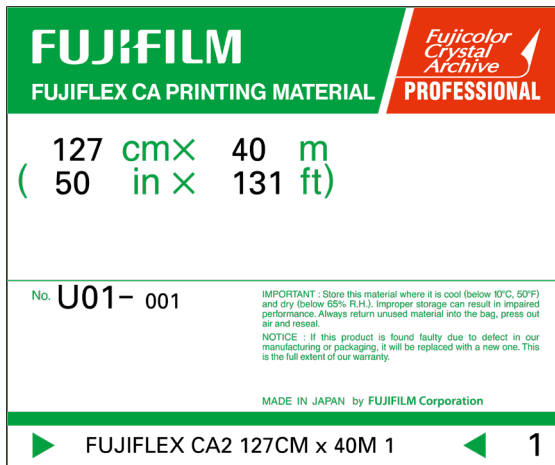
Width \ Length	40 m (131 ft.)	50 m (164 ft.)
76.2 cm (30 in.)		●
81.3 cm (32 in.)		●
101.6 cm (40 in.)		●
127 cm (50 in.)	●	

10. Control strips

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

11. Markings (Box/Emulsion numbers)

11-1 Box Labeling



11-2 Emulsion Numbers

Emulsion numbering will range between U01 - U99.

12. Technologies incorporated In this Material

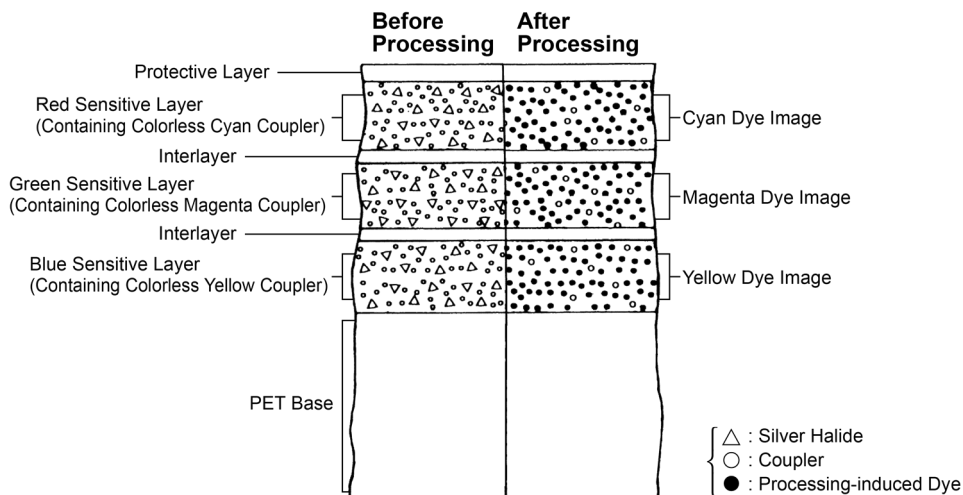
12-1 X-Coupler Technology

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

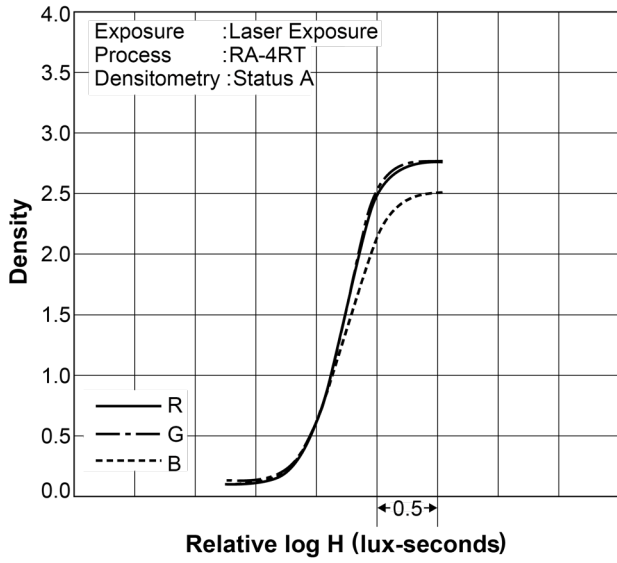
12-2 NLS (New Low Stain Spectral-Sensitizer) Technology and ARR (Advanced Resistance-to-Radiation) Technology

In addition to WE (White Enhancing) Technology used in the former FUJIFLEX CRYSTAL ARCHIVE PRINTING MATERIAL, this printing material has incorporated NLS Technology, which is Fujifim'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 fogging caused by ambient radiation, enhancing the maintenance of white purity in unexposed material.

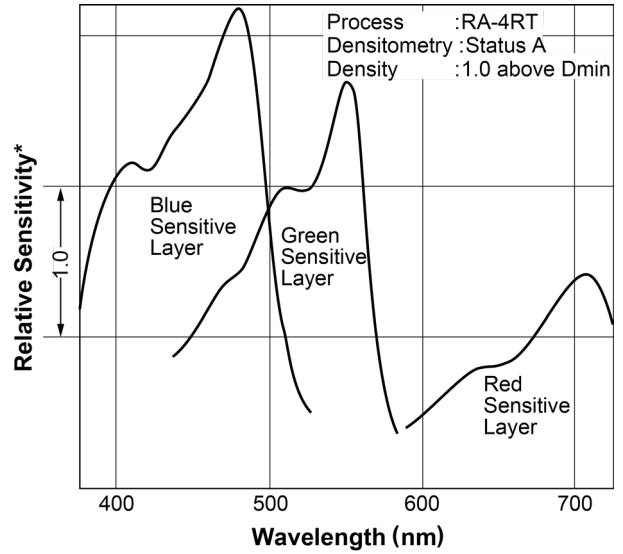
13. Material structure



14. Characteristic curves

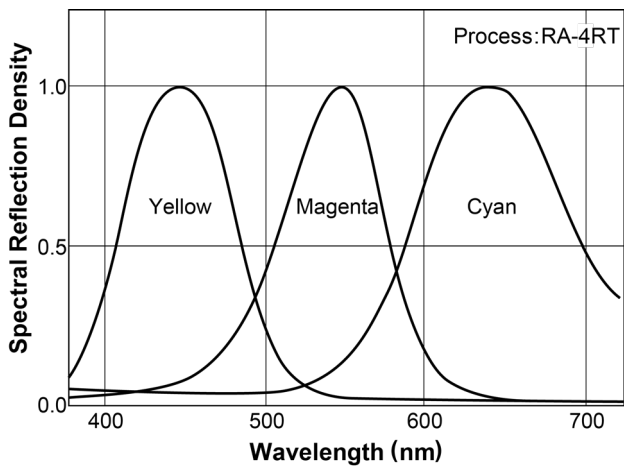


15. Spectral sensitivity curves



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

16. Spectral dye density curves



NOTICE The data herein published were derived from materials taken from general production runs. However, as FUJIFILM is constantly upgrading the quality of its products, changes in specifications may occur without prior notice.