

FUJIFILM PLOTTER FILM HG XPR-7S

Satisfine : Satisfine series are quality enhanced films for photo-mask making use.

FEATURES

Plotter Film HG XPR-7S is a new film in Fujifilm's Satisfine PCB film series. It is designed for laser photoplotters equipped with HE-NE lasers or red laser diodes. Incorporating Fujifilm proprietary charged accelerator emulsion technology, best results are obtained when processed with the HQ System.

1. HG XPR-7 has sensitivity and contrast suitable for laser photoplotters equipped with He-Ne lasers or red laser diodes. High quality images with sharp edges are provided.
2. HG XPR-7 is suitable for processing in Fuji HQ system developer, which provides high quality and consistent results.
3. To eliminate false signals with AOI (Automated Optical Inspection), the emulsion contains just the minimum amount of matt required.
4. The film backing layer contains an electroconductive grain developed by Fujifilm that provides permanent protection from charging.
5. HG XPR-7 has wide development latitude, enabling consistent processing results regardless of fluctuations in the condition of the processing chemicals.
6. HG XPR-7 absorbs less ultraviolet light, allowing the reduction of the exposure time onto the photoresist.

SUPPORTED PLOTTERS

| Manufacturer | Model |
|------------------|---|
| Dainippon Screen | RG4000/5000, RG7000, RG7500, RG8000, RG8500 |
| First EIE | RP200, 300, 500 series |
| Orbotech | LP7008 |
| ManiaBARCO | SilverWriter, Crescent 30/40 |

BASE QUALITY

1. 175 μ m polyester base.
2. Dimensional stability: PET base dimensions are affected by temperature changes and by absorbing and ejecting water molecules. Special manufacturing technology used to convert the PET from dope to film minimizes the anisotropy of the dimensional changes, resulting in easier scaling.
3. Particles in the base: The base used by the Satisfine series is an extremely clean base from which nearly all particles are eliminated. Defects in mask film caused by base particles are therefore greatly reduced.

SAFELIGHT

Use Fuji Safelight Glass SLG-No. 4B (green) with a 10 watt lamp. Handle the film at a distance of at least one meter away from the safelight.

STORAGE

Film boxes are preferably kept flat, at a temperature of 20°–25°C (68°–77°F) and at 50–60% relative humidity. Temperature and relative humidity in the storage room must be kept within strict tolerances to avoid dimensional changes.

**IMAGING
CONDITIONS
SETUP**

Suitable imaging conditions depend on both the processing conditions and the plotter imaging setup. In order to determine imaging conditions for this film, using optimized processing conditions, vary the plotter imaging conditions until optimal line width, density, and image quality are obtained.

Target Imaging Conditions when Switching from another Film

If another film is currently in use, perform the above imaging adjustment referring to the following imaging multiples.

Laser Power Multiples for Changing to XPR-7S

- HPR-7Sx0.75
- ARD7x1.1
- VR7x1

**AUTOMATIC
PROCESSING**

This film is suitable for processing in various rapid access automatic processors.

In order to obtain optimum performance, it is recommended to use the dedicated developer QR-D1. For fixer, use Fuji Fixer UR-F1. For details, see below.

Mixing Chemicals

| Chemical | | Dilution Ratio (Chemical : Water) |
|-----------------------|-------|-----------------------------------|
| Developer | QR-D1 | 1 : 3 |
| Developer Replenisher | QR-D1 | 1 : 2 |
| Fixer | UR-F1 | 1 : 2 |
| Fixer Replenisher | UR-F1 | 1 : 2 |

Processing Conditions

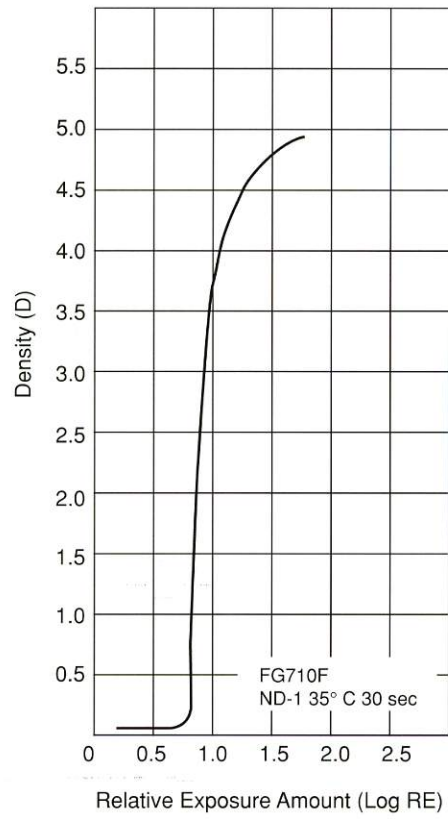
| Step | Chemical | Temperature | Time |
|-------------|-----------------------------|---------------------|---------|
| Development | QR-D1 | 35°C (95°F) | 30 sec. |
| Fixing | UR-F1 | 25°–35°C (77°–95°F) | — |
| Wash | Running water, 5 liter/min. | 15°–30°C (59°–86°F) | — |
| Dry | — | 50 °C (122°F)max. | — |

Developer Replenishment Rates

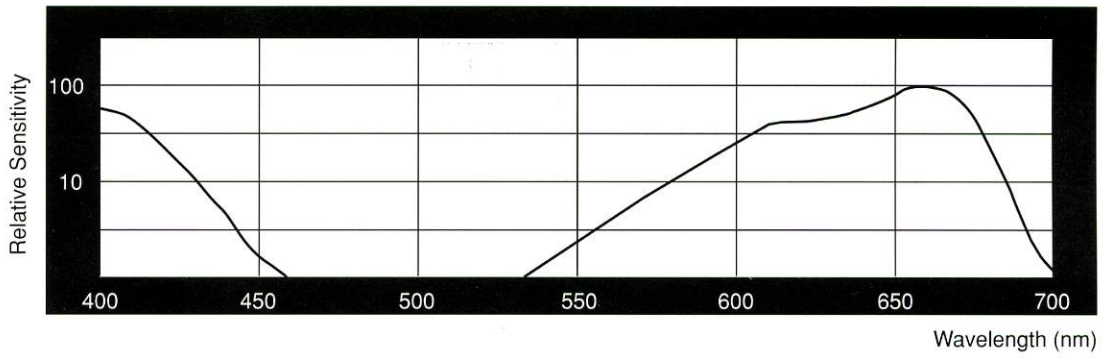
The standard replenishment rates are indicated below in milliliters per sheet of 50.8 x 61.0 cm size film.

- Developer replenisher QR-D1100 ml
- Fixer replenisher UR-F1120 ml

CHARACTERISTIC CURVE



SPECTRAL SENSITIVITY



UV TRANSMITTANCE

