

MEDIPHOT X-O/RP

GREEN SENSITIZED X-RAY FILM

MEDIPHOT X-O/RP is an orthochromatic medical x-ray film that provides high image quality when used in conjunction with green emitting rare-earth screens.

The Super Thin Σ (sigma)-LIC 30-Grain Technology, an improved version of Σ -LIC Grain Technology, enables rapid processing of fine-grain images with high resolution.

Well-suited for general radiographic applications such as skull, chest and abdomen as well as extremities and angiography, MEDIPHOT X-O/RP ensures stable, high-resolution images regardless of whether your facility employs super-rapid (45 seconds), rapid (90 seconds), low volume or manual x-ray film processing.

Its dramatic improvement in stability makes quality control easier and more efficient even on a daily basis.

Super Thin Σ -LIC (Localized Image Centers) 30-Grain Technology

- a) Super Thin Σ -LIC 30-Grain Technology allows spectral sensitizing dyes to be more fully absorbed onto the large hexagonal surfaces of the Σ -shaped silver halide crystals thereby increasing its fluorescent light absorption efficiency.
- b) Latent images are localized in the corners and edges of the flat hexagonal crystals, enabling light to be absorbed more efficiently. The images formed are more stable and intense than those obtained with conventional films.

MEDIPHOT X-O/RP film contains excellent antistatic properties and remarkable surface smoothness, resulting in reliable transport in a variety of film handling systems including chest changers, cassetteless tables and rapid film changers.

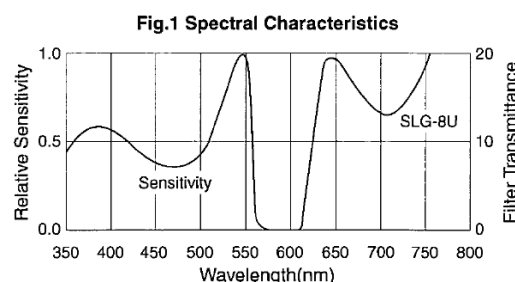
MEDIPHOT X-O/RP film offers the following special features:

- High resolution, fine grain and low fog
- High processing stability (minimized speed and contrast variation)
- High clarity images with bluer tint
- Resistance to decreased density kink marks
- Transport reliability (excellent antistatic and surface smoothness characteristics)
- Consistently high quality

PHOTOGRAPHIC AND PHYSICAL CHARACTERISTICS

Spectral Characteristics

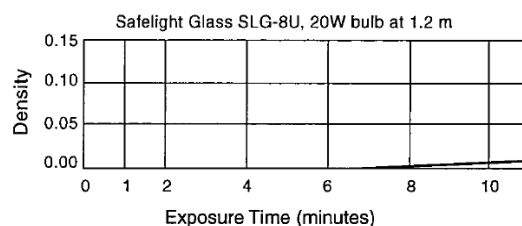
MEDIPHOT X-O/RP film produces a spectral sensitivity distribution pattern having two peaks, one which is characteristic of a silver halide sensitivity (at 380 nm) and the other characteristic of an orthochromatic colour sensitization (at 540 nm). These peaks coincide with the emission spectra of green-emitting screens, thus accounting for the high speed and excellent image quality.



Safelight Safety

MEDIPHOT X-O/RP film tolerates high safelight illumination levels, despite its high speed. It can be handled especially safely under Safelight Glass SLG-8U (refer to Fig. 1), or equivalent.

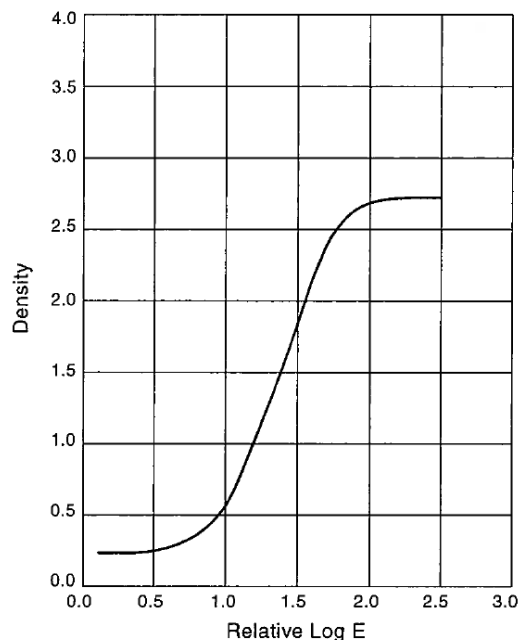
Fig. 2 Safelight Tolerances



Sensitometric Characteristics

Figure 3 designates the MEDIPHOT X-O/RP characteristic curve and values obtained from 90 second processing.

Fig. 3 Characteristic Curve



X-ray Sensitometry,
100 mm H₂O Phantom, 80 kVp, 50 mA, 0.1 sec,
with Regular screens
Automatic Processor (90 sec)
Developer at 35°C (95°F), Fixer

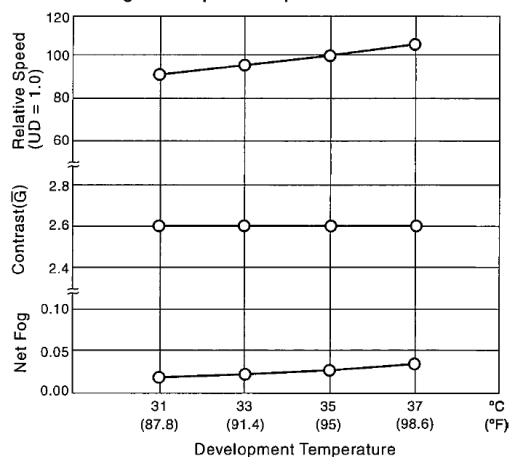
Rare-earth Screen	HR Fine	HR Medium	HR Medium Plus	HR Regular	HR Fast
Relative Speed (UD=1.0)	120	200	300	400	600
\bar{G}	2.6	2.6	2.6	2.6	2.6
Net Fog	0.03	0.03	0.03	0.03	0.03

X-ray Sensitometry,
100 mm H₂O Phantom, 80 kVp, 50 mA, 0.1 sec
Automatic Processor (90 sec)
Developer at 35°C (95°F), Fixer

Development Temperature Characteristics

The 90 second processing derived development temperature variability characteristics for MEDIPHOT X-O/RP film are indicated in Fig. 4.

Fig. 4 Development Temperature Characteristics



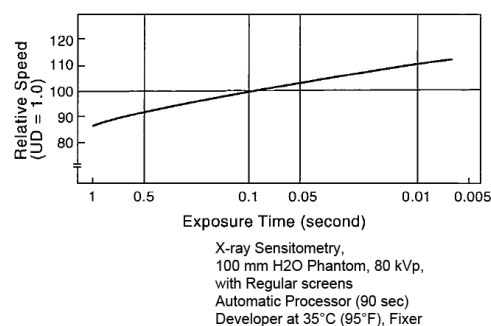
Development Temperature

X-ray Sensitometry,
100 mm H₂O Phantom, 80 kVp, 50 mA, 0.1 sec,
with Regular screens
Automatic Processor (90 sec)
Developer at 35°C (95°F), Fixer

Reciprocity Characteristics

Fig. 5 shows the reciprocity characteristics of MEDIPHOT X-O/RP film. This film shows minimal reciprocity law failure.

Fig. 5 Reciprocity Characteristics



Base and Emulsion Layer Thickness

The MEDIPHOT X-O/RP film base material is blue-tinted 175 µm polyester with an emulsion layer thickness of about 5 µm.

Storage and Handling

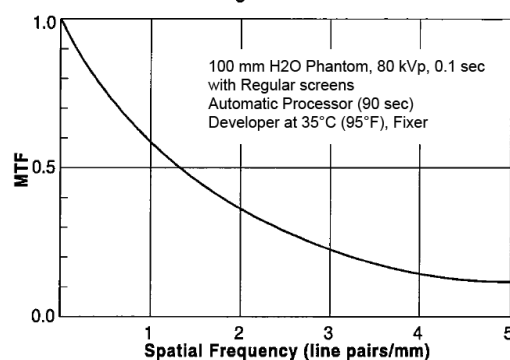
Store and handle film at 10°C to 25°C, at 30% to 60% RH and properly shielded from x-rays, gamma rays or other penetrating radiations.

IMAGE STRUCTURE CHARACTERISTICS

Sharpness

Fig. 6 indicates image sharpness in MTF (Modulation Transfer Function) terms. In this case, the higher values designate better image sharpness.

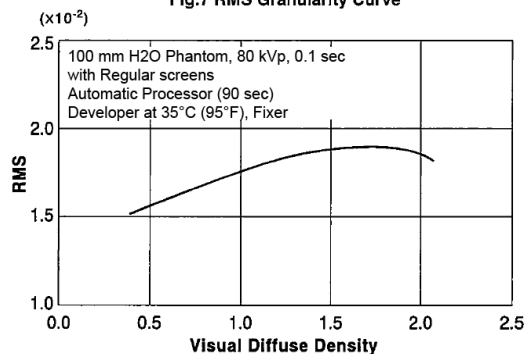
Fig.6 MTF Curve



Granularity

Fig. 7 indicates RMS (Root Mean Square)* granularity for MEDIPHOT X-O/RP film. In this case, the higher values designate coarser granularity.

Fig.7 RMS Granularity Curve



* Deviations of mean density per unit area.

SYMBOLS AND ABBREVIATIONS



Batch code



Expiry (Use by)



Non Interleaved Film



Store film at 10 to 25°C, at 30 to 60%RH



Store film properly shielded from X-rays, gamma rays or other penetrating radiations and the direct sun.



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