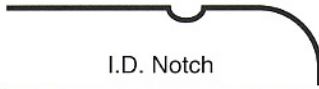


FUJI MAMMOGRAPHY FILM  
UM-MA<sub>HC</sub>



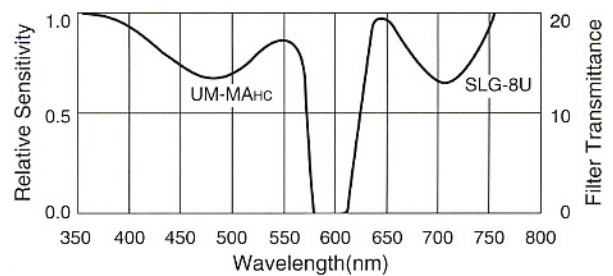
Fuji Mammography film UM-MA<sub>HC</sub> is a single-coated, orthochromatic, green sensitive film designed for use in all mammographic applications where high speed, high contrast and high resolution are essential. When used in conjunction with Fuji single green-emitting mammographic intensifying screen UM Mammo Fine and UM Mammo Medium, UM-MA<sub>HC</sub> enables accurate diagnosis in mammography, providing excellent visibility of micro-calcifications and minute tumors in the breast. Processing is accomplished in 90 second or extended cycle. This mammography film should only be used in combination with a single green-emitting rare-earth screen and the final image density of the processed film depends on the exposure and processing conditions.

**PHOTOGRAPHIC AND PHYSICAL CHARACTERISTICS**

**Spectral characteristics**

UM-MA<sub>HC</sub> incorporates a spectral sensitivity that matches the green-emitting intensifying screen spectral emission.

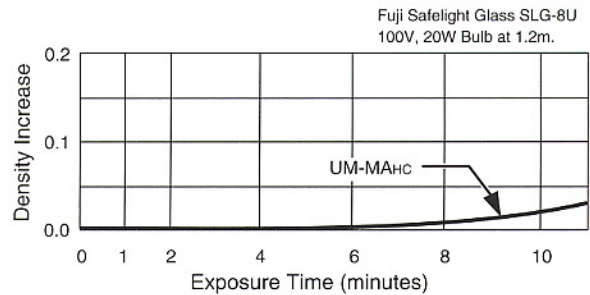
**Fig.1 Spectral Characteristics**



**Safelight Safety**

UM-MA<sub>HC</sub> tolerates high safelight illumination levels in spite of its high speed. it can be handled safely under red safelight such as provided by Fuji Safelight Glass SLG-8U (refer to Fig.1), or equivalent.

**Fig.2 Safelight Tolerance**



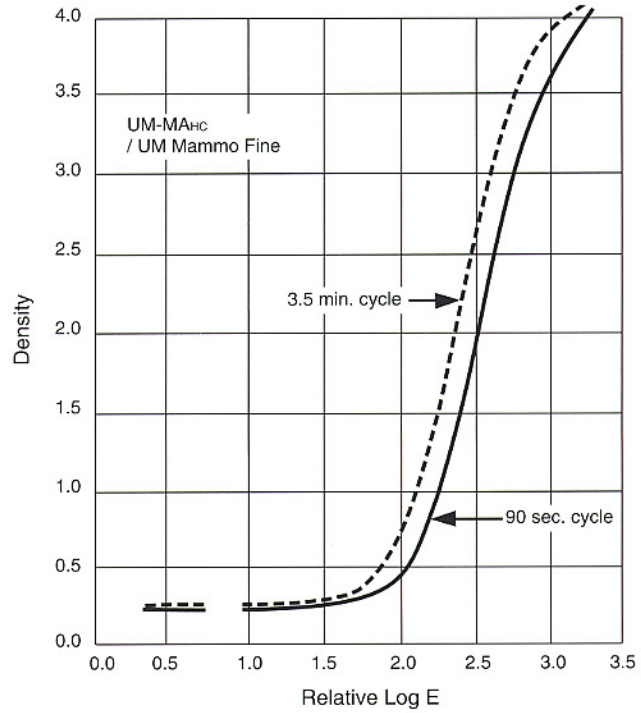
**Characteristic Curves**

Figure 3 indicates the characteristic curves for UM-MAHC processed in the standard 90 second and 3.5 minute extended cycle.

Processing Cycle	90 sec.	3.5 min.
Dev. Temperature	35°C	35°C
Development time	24 sec.	58 sec.
Relative Speed	100	130
Contrast ( $\bar{G}$ )	3.50	3.55
Net Fog	0.05	0.06

X-ray Sensitometry,  
3 cm Acrylic Phantom, 28 kVp at AEC  
with UM Mammo Fine screen.  
Fuji FPM4200 Processor  
Fuji RD-3 Developer at 35°C (95°F), F Fixer

**Fig. 3 Characteristic Curves**

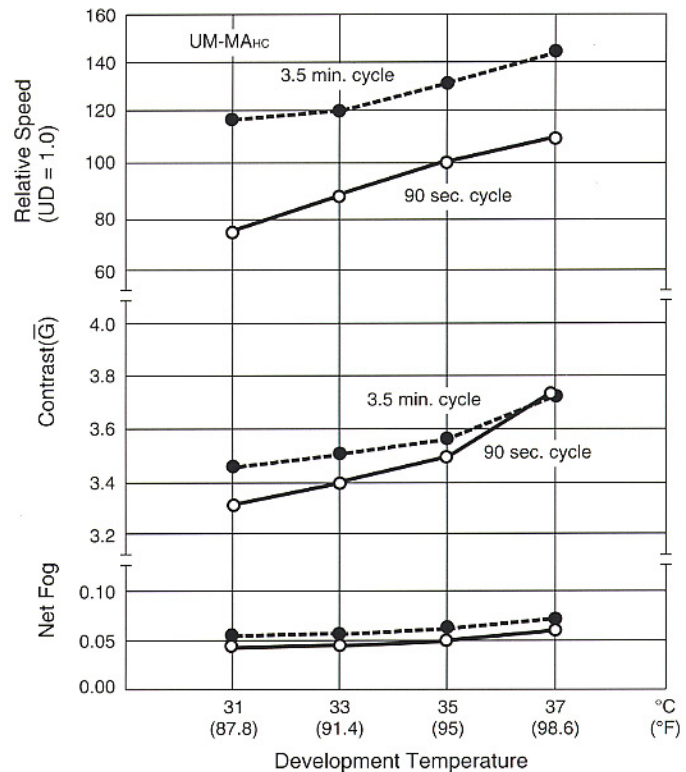


**Development Temperature Characteristics**

Figure 4 indicates the development temperature characteristics for the UM-MAHC film in the standard 90 second and 3.5 minute extended cycle processing.

X-ray Sensitometry,  
3 cm Acrylic Phantom, 28 kVp at AEC  
with UM Mammo Fine screen.  
Fuji FPM4200 Processor  
Fuji RD-3 Developer at 35°C (95°F), F Fixer

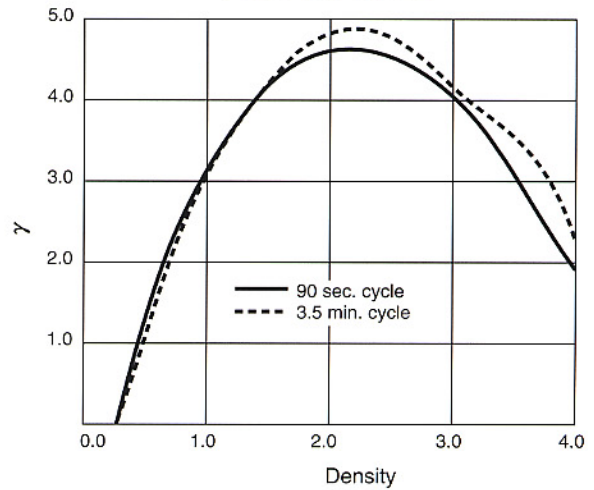
**Fig. 4 Development Temperature Characteristics**



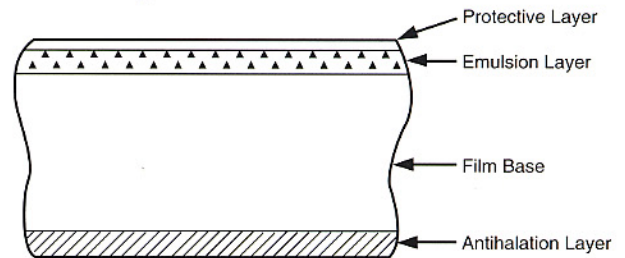
**D- $\gamma$  Curves**

Figure 5 indicates D- $\gamma$  curves of the UM-MAHC film. Gamma ( $\gamma$ ) is expressed by the gradient of the tangent line at the point on the characteristic curve.

Processing : Fuji FPM4200, Fuji RD-3,  
Developer at 35°C (95°F),  
F Fixer

**Fig. 5 D- $\gamma$  Curves****Film Structure**

UM-MAHC is a single-coated film having a blue-tinted polyester base with 175  $\mu\text{m}$  thickness. An antihalation layer is provided to increase image sharpness.

**Fig. 6 Film Structure****Storage and Handling**

Store and handle film at 10 to 23°C, at 30 to 60%RH and properly shielded from X-rays, gamma rays or other penetrating radiations.

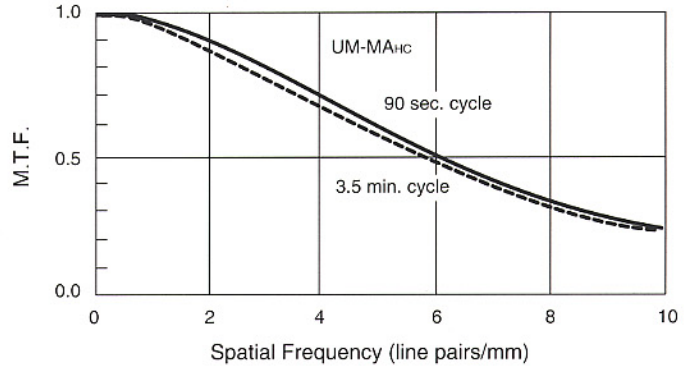
**IMAGE CHARACTERISTICS**

**Sharpness**

Image sharpness is shown in Figure 7 as M.T.F. (Modulation Transfer Function) at Varying Spatial frequencies for both 90 second and 3.5 minute cycle processing.

X-ray Sensitometry,  
3 cm Acrylic Phantom, 28 kVp  
with UM Mammo Fine screen.  
Fuji FPM4200 Processor  
Fuji RD-3 Developer at 35°C (95°F), F Fixer

**Fig. 7 M.T.F. Curves**

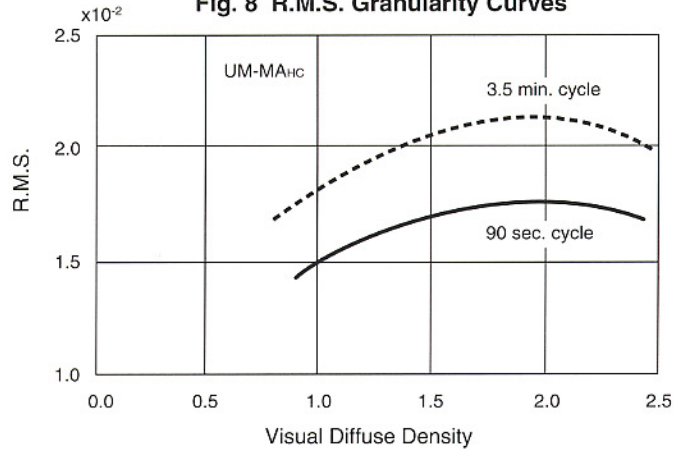


**Graininess**

Figure 8 expresses graininess as R.M.S. (Root Mean Square)\* granularity.

X-ray Sensitometry,  
3 cm Acrylic Phantom, 28 kVp  
with UM Mammo Fine screen.  
Fuji FPM4200 Processor  
Fuji RD-3 Developer at 35°C (95°F), F Fixer

**Fig. 8 R.M.S. Granularity Curves**



\* Deviations of the mean density per unit area.

**SYMBOLS AND ABBREVIATIONS**



Batch code



EXP. DATE

**NIF**

Non Interleaved Film



Store film at 10 to 23°C, at 30 to 60%RH



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

**UM-MAHC**

Improved UM-MAHC (with Black Triangle)



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