Carestream

Technical Data Sheet

Issued 2016-02

Oncology Simulation / SIM Film

Oncology Simulation / SIM Film is a high-speed, wide latitude orthochromatic film for use with green light emitting intensifying screens such as LANEX Regular or LANEX Medium. It is intended for radiographic procedures where visualization of an extended dynamic range of radio-opacities is required. It is coated on a blue, approximately 0.2 mm (7-mil) polyester support that has a base density of approximately 0.19, with good static protection. Oncology Simulation / SIM Film features T-grain emulsion technology that reduces the amount of screen-light crossover, resulting in excellent image sharpness. It is designed for both standard high-throughput and rapid (RA) processing cycles. It may also be processed manually. Due to the use of the T-Grain technology, the characteristics of SIM film are:

- high sensitivity
- high sharpness
- high gloss radiographs
- robust when used in different processing conditions

Sensitometric and Photographic Properties:

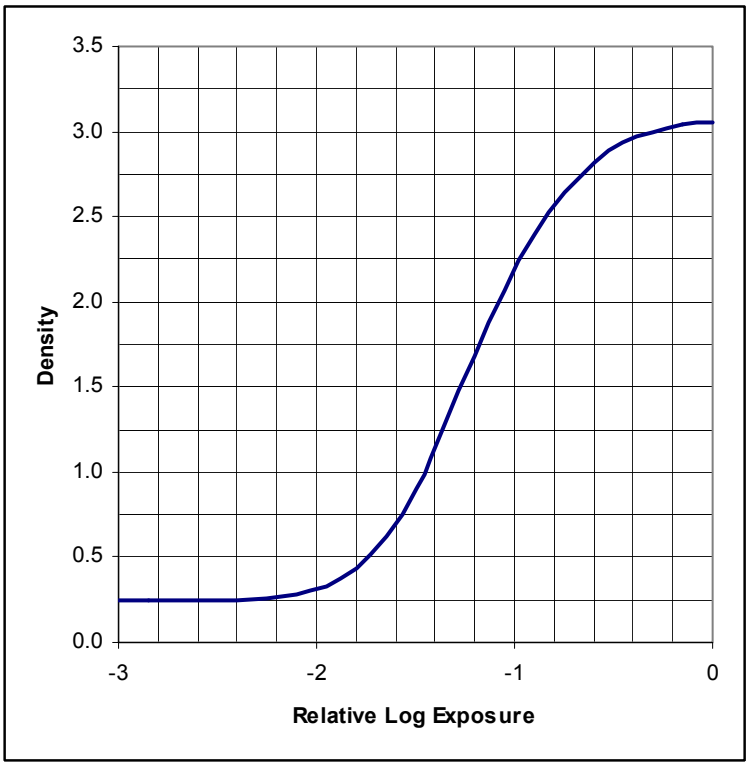
Screen	System Speed
LANEX Fine	100
LANEX Medium	250
LANEX Regular	400
LANEX Fast	600

Sensitometric Parameters:

Speed	Measured at 1.0 OD above Gross Fog
Contrast	Measured as slope of the straight line portion of the sensitometric curve, and computed as the value for the rise for any three consecutive steps.
Gross Fog	Density of film base plus processing fog.

Oncology Simulation / SIM Film

1/50 second Simulated Green Screen Exposure; RP X-OMAT Chemicals
X-OMAT 5000 RA Processor; Diffuse Visual Densitometry; 90-second Processing



Notice: The data in this publication represent product tested under the conditions of exposure and processing specified. They are representative of production coatings, and therefore do not apply to a particular box or roll of photographic material. They do not represent standards or specifications that must be met by Carestream Health, Inc. The company reserves the right to change and improve product characteristics at any time.

Automatic Processing Recommendations:
In general, processing is recommended in X-OMAT and RP X-OMAT Processors using RP X-OMAT, X-OMAT EX II, X-OMAT MX or X-OMAT LE+ Developer and Replenisher and RP X-OMAT LO or X-OMAT MX Fixer and Replenisher.

Influence of developer temperature in case of automatic processing

-2 ºC	Ref	+2 ºC
0	Base fog	+0.01
-10 %	Sensitivity	+7 %
-1 %	Contrast	0 %

Replenishment Rate Recommendations for X-OMAT or RP X-OMAT Processors (Replenishment by length)

Film Size Processed	Use Condition	Average Number of Films per 8 hours processor operation	Replenishment Rates (ml per 35 x 43 cm)	
			Developer	Fixer
35 x 35 cm (only)	High Medium Low	90 sheets or more 30 – 90 sheets 30 sheets or less*	50 65 80	70 85 100
Average size intermix	High Medium Low	115 sheets or more 40 – 115 sheets 40 sheets or less*	50 65 80	70 85 100
35 x 43 cm (only)	High Medium Low	75 sheets or more 25 – 75 sheets 25 sheets or less*	60 80 100	85 100 120
*If sensitometry does not stay within control limits, flooded replenishment may be needed.				

Please refer to Service Bulletin No. 30, available on the Carestream website or upon request, for additional processing recommendations.

Recommended Starter Volumes

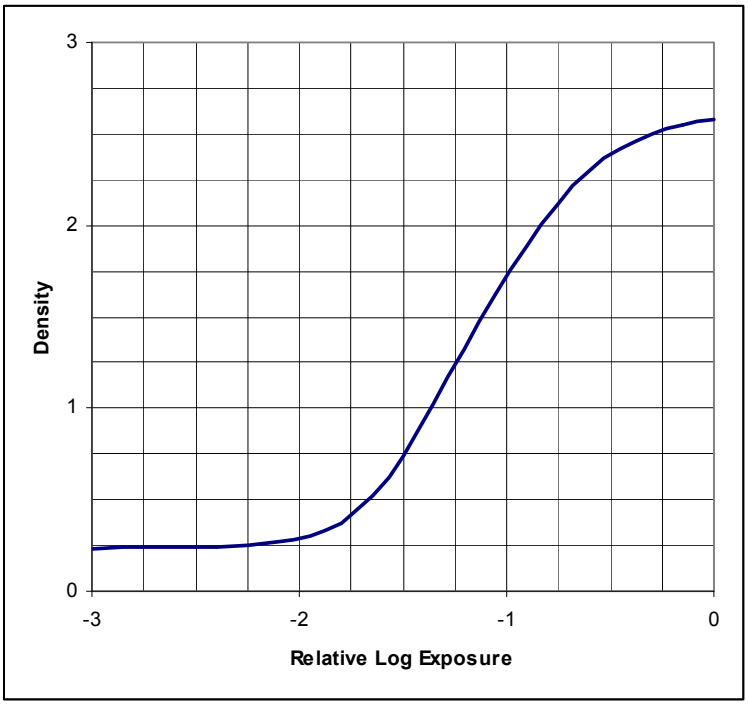
Developer	Starter (Added to processor developer tank)
RP, EX II, MX	89 ml (3 fl. Oz.) per 3.78 Litres (1 gallon)
LE+	No starter added

Influence of developer temperature in case of manual processing

The developing time must be adjusted as per the following the table:

Temperature °C :	20	22	24.5	26.5
Developer Time (minutes)	8	7	5	4

Oncology Simulation / SIM Film
1/50 Second Simulated Green Screen Exposure
GBX Chemicals, 7 minutes, 22 °C (72 °F), Manual Process
Diffuse Visual Densitometry



Sensitometric Quality Control
(required for Germany and Switzerland)

The film was tested with a calibrated light sensitometer and processed in a X-OMAT 5000 RA processor, filled with fresh RP X-OMAT Developer and RP X-OMAT LO Fixer.

Characteristics are measured according to DIN 6868-55

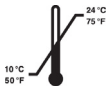
LE = 1.76 +/- 0.09
LK = 2.11 +/- 11 %

EI = 1.21 step = 9
KI = 1.41 step = 13 – 9

+Note : the results obtained are dependent on exposure and processing conditions

Storage and Handling

Storage -

Unexposed:		10–24 °C (50–75 °F) Do not refrigerate or freeze as this can cause condensation to occur.
		30–50 %RH
		Protect from heat and radioactive sources. Film is to be properly shielded from x-rays, gamma rays, or penetrating radiation.
Exposed:	Keep cool, dry, and properly shielded from penetrating radiation. Process as soon as possible.	
Processed:	16–27 °C (60–80 °F), 30–50 %RH	

The film should be used before the expiration date indicated on the box with the lot number LOT.

Handling -

Hands must be clean, dry and free of lotions, etc. Film should be handled carefully by the edges to avoid physical strains such as pressure, creasing, or buckling. Luminous watches, cell phone and darkroom light leaks should be avoided.

Do not re-use. Film is a single use medical device.

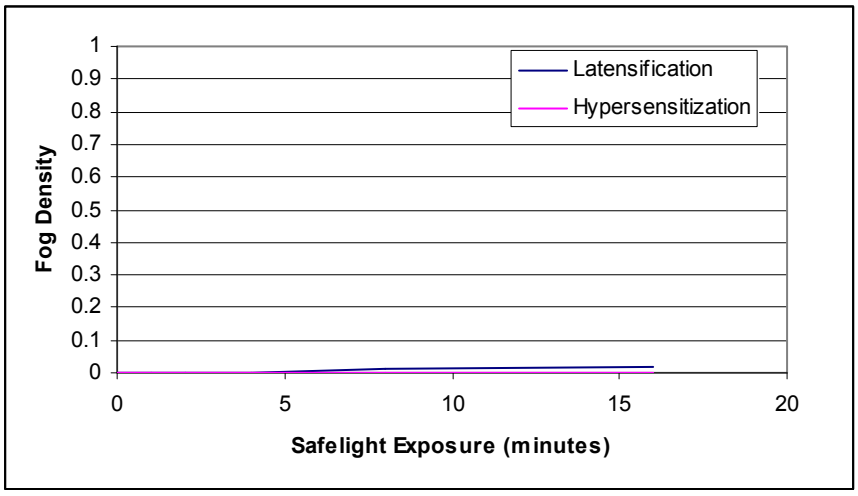
Safelight Filter

Use a Ruby Red Safelight Filter, such as GBX-2, with a frosted 15-watt bulb or a LED Safelight located at least 1.22 metres (48 inches) from the film.

Latensification: Safelight exposure after primary x-ray exposure.

Hypersensitization: Safelight exposure prior to primary x-ray exposure.

Oncology Simulation / SIM Film
GBX-2 Safelight Filter, 15-watt bulb / 1.22 metres (48 inches)
X-OMAT 5000 RA Processor, RP X-OMAT Chemicals, 35 °C (95 °F)



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