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FWT-60-00 Characterization

Batch 1068

Coefficient of Variation of k

600 nm	510 nm
1.5%	2.7%

Variation in dose from ± 3% variation in k at 30 kGy

600 nm	510 nm
3.9%	3.6%

Typical Calibration Curve

(Dosimeters pre-conditioned to 20 °C and 50%RH)

Dose, kGy	k, mm^{-1} at 600 nm	k, mm^{-1} at 510 nm
1	1.71	--
5	7.76	0.97
10	14.95	1.87
30	38.48	4.82
50	53.78	7.12
70	61.31	9.25
100	--	11.73
150	--	14.85
200	--	17.01

Temperature Dependence

(Dosimeters pre-conditioned to 20 °C and 50%RH)

T, °C	-76	-50	-25	0	20	30	40	50
k, mm^{-1} at 600 nm	30.04	33.45	35.61	38.05	39.07	38.42	37.83	38.92
k, mm^{-1} at 510 nm	3.72	4.06	4.44	4.79	4.78	4.77	4.79	4.94

Humidity Dependence

(Dosimeters pre-conditioned to the indicated humidity at 20-25 °C)

%RH	35	40	45	50	55	60
k, mm^{-1} at 600 nm	40.08	40.17	40.30	39.29	37.54	36.39
k, mm^{-1} at 510 nm	5.04	5.06	5.01	4.78	4.70	4.54

Note: k is the specific absorbance and is determined from the thickness, t, and final and initial absorbances A_f and A_i: $k = (A_f - A_i) / t$.

This typical calibration curve is provided as a guide to the response of FWT-60-00 Radiachromic Detectors to ionizing radiation. Actual response also depends on the instrumentation used to measure optical densities and thicknesses.

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Authorization for release Date