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FWT-60-00 Batch Characterization

Batch 1157

Typical Calibration Curve

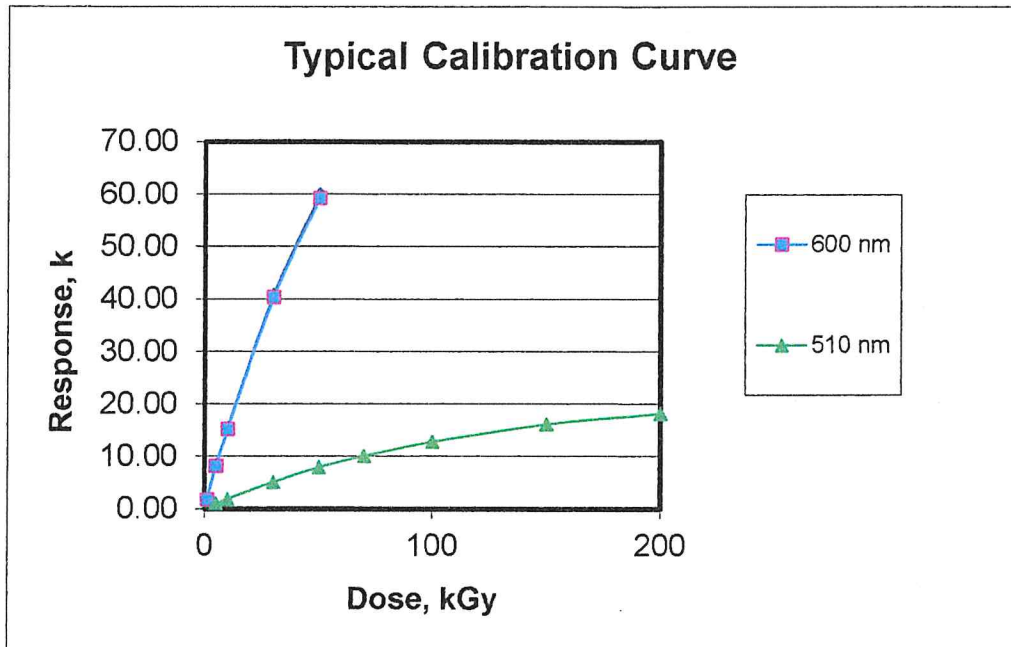
(Dosimeters pre-conditioned to 20 °C and 50%RH)

Dose, kGy	k, mm ⁻¹ at 605 nm	k, mm ⁻¹ at 600 nm	k, mm ⁻¹ at 510 nm
1	1.79	1.76	
5	8.32	8.20	1.04
10	15.47	15.24	1.92
30	40.80	40.31	5.19
50	59.91	59.18	7.94
70			10.11
100			12.79
150			16.16
200			18.21

Coefficient of Variation of k

605 nm	600 nm	510 nm
1.1%	1.0%	1.0%

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



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 processing parameters and on the instrumentation used to measure absorbancies and thicknesses.

Scott A. Larson
 Authorization for Release

January 24, 2020
 Date



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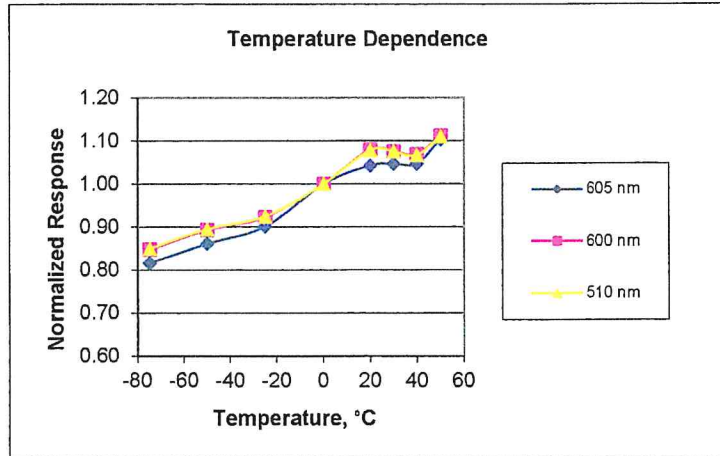
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Temperature Dependence

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

T, °C	k, mm ⁻¹ at 605 nm	k, mm ⁻¹ at 600 nm	k, mm ⁻¹ at 510 nm
-75	3.55	28.21	28.65
-50	3.75	29.71	30.17
-25	3.92	30.73	31.19
0	4.35	33.26	33.72
20	4.54	35.93	36.38
30	4.56	35.77	36.26
40	4.56	35.51	35.96
50	4.80	36.97	37.42

T, °C	Norm. k at 605 nm	Norm k at 600 nm	Norm k at 510 nm
-75	0.82	0.85	0.85
-50	0.86	0.89	0.89
-25	0.90	0.92	0.92
0	1.00	1.00	1.00
20	1.04	1.08	1.08
30	1.05	1.08	1.08
40	1.05	1.07	1.07
50	1.10	1.11	1.11



Humidity Dependence

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

%RH	k, mm ⁻¹ at 605 nm	k, mm ⁻¹ at 600 nm	k, mm ⁻¹ at 510 nm
30	5.51	41.44	41.96
40	5.43	41.62	42.09
45	5.36	41.45	41.94
50	5.24	40.60	41.09
55	5.16	40.06	40.55
60	4.99	38.66	39.14

%RH	Norm. k at 605 nm	Norm k at 600 nm	Norm k at 510 nm
30	1.05	1.02	1.02
40	1.04	1.03	1.02
45	1.02	1.02	1.02
50	1.00	1.00	1.00
55	0.98	0.99	0.99
60	0.95	0.95	0.95

