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## FWT-60-00 Batch Characterization

### Batch 1166

#### Typical Calibration Curve

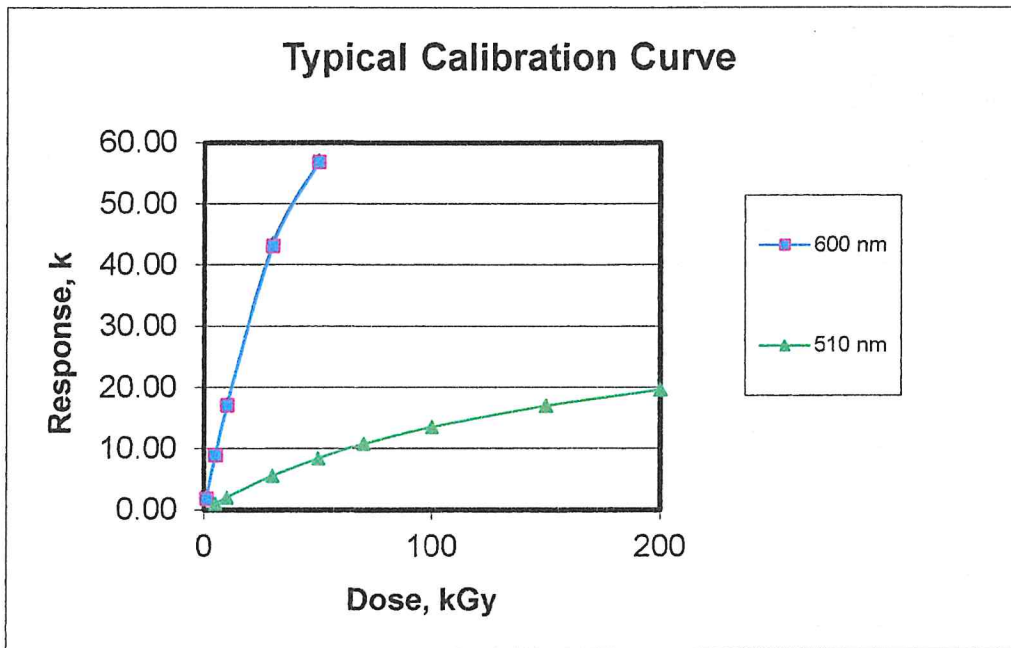
(Dosimeters pre-conditioned to 20 °C and 50%RH)

| Dose, kGy | k, mm <sup>-1</sup> at 605 nm | k, mm <sup>-1</sup> at 600 nm | k, mm <sup>-1</sup> at 510 nm |
|-----------|-------------------------------|-------------------------------|-------------------------------|
| 1         | 1.93                          | 1.89                          |                               |
| 5         | 9.09                          | 8.94                          | 1.09                          |
| 10        | 17.31                         | 17.07                         | 2.10                          |
| 30        | 43.62                         | 43.17                         | 5.61                          |
| 50        | 57.04                         | 56.84                         | 8.43                          |
| 70        |                               |                               | 10.79                         |
| 100       |                               |                               | 13.54                         |
| 150       |                               |                               | 17.02                         |
| 200       |                               |                               | 19.64                         |

#### Coefficient of Variation of k

| 605 nm | 600 nm | 510 nm |
|--------|--------|--------|
| 1.8%   | 1.5%   | 1.6%   |

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 Larson  
 Authorization for Release

22 November 2021  
 Date



## FWT-60-00 Batch Characterization

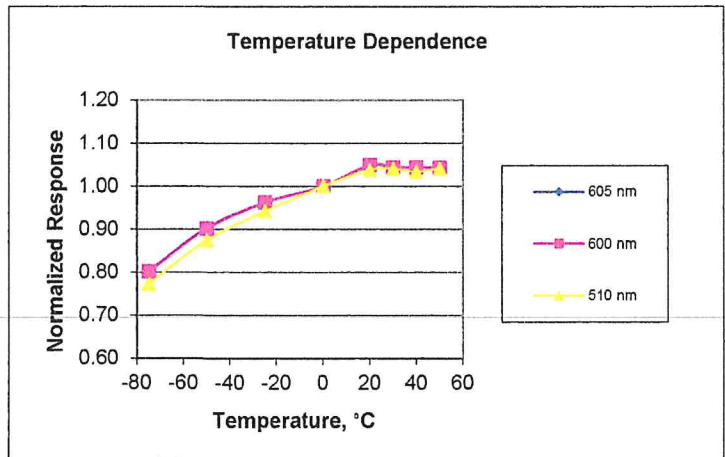
### Batch 1166

#### Temperature Dependence

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

| T, °C | k, mm <sup>-1</sup> at 605 nm | k, mm <sup>-1</sup> at 600 nm | k, mm <sup>-1</sup> at 510 nm |
|-------|-------------------------------|-------------------------------|-------------------------------|
| -75   | 29.29                         | 28.90                         | 3.62                          |
| -50   | 32.93                         | 32.50                         | 4.09                          |
| -25   | 35.11                         | 34.67                         | 4.41                          |
| 0     | 36.45                         | 36.03                         | 4.68                          |
| 20    | 38.20                         | 37.79                         | 4.86                          |
| 30    | 38.05                         | 37.63                         | 4.87                          |
| 40    | 38.05                         | 37.61                         | 4.84                          |
| 50    | 38.03                         | 37.57                         | 4.87                          |

| T, °C | Norm. k at 605 nm | Norm k at 600 nm | Norm k at 510 nm |
|-------|-------------------|------------------|------------------|
| -75   | 0.80              | 0.80             | 0.77             |
| -50   | 0.90              | 0.90             | 0.87             |
| -25   | 0.96              | 0.96             | 0.94             |
| 0     | 1.00              | 1.00             | 1.00             |
| 20    | 1.05              | 1.05             | 1.04             |
| 30    | 1.04              | 1.04             | 1.04             |
| 40    | 1.04              | 1.04             | 1.03             |
| 50    | 1.04              | 1.04             | 1.04             |



#### Humidity Dependence

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

| %RH | k, mm <sup>-1</sup> at 605 nm | k, mm <sup>-1</sup> at 600 nm | k, mm <sup>-1</sup> at 510 nm |
|-----|-------------------------------|-------------------------------|-------------------------------|
| 30  | 44.00                         | 43.66                         | 5.95                          |
| 40  | 43.60                         | 43.28                         | 5.76                          |
| 45  | 43.09                         | 42.76                         | 5.68                          |
| 50  | 42.71                         | 42.37                         | 5.57                          |
| 55  | 41.62                         | 41.27                         | 5.40                          |
| 60  | 40.27                         | 39.91                         | 5.28                          |

| %RH | Norm. k at 605 nm | Norm k at 600 nm | Norm k at 510 nm |
|-----|-------------------|------------------|------------------|
| 30  | 1.03              | 1.03             | 1.07             |
| 40  | 1.02              | 1.02             | 1.03             |
| 45  | 1.01              | 1.01             | 1.02             |
| 50  | 1.00              | 1.00             | 1.00             |
| 55  | 0.97              | 0.97             | 0.97             |
| 60  | 0.94              | 0.94             | 0.95             |

