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## FWT-60-00 Batch Characterization

### Batch 1092

#### Typical Calibration Curve

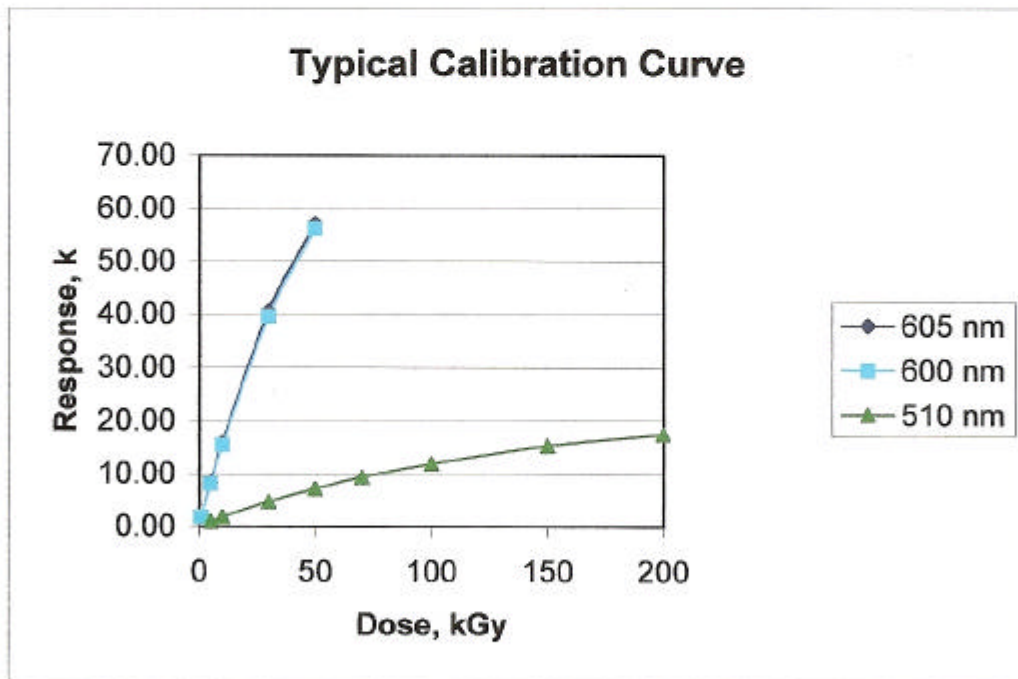
(Dosimeters pre-conditioned to 20 °C and 50%RH)

| 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         | 1.78                          | 1.73                          |                               |
| 5         | 8.31                          | 8.06                          | 0.95                          |
| 10        | 15.90                         | 15.42                         | 1.79                          |
| 30        | 40.67                         | 39.60                         | 4.74                          |
| 50        | 57.19                         | 56.16                         | 7.18                          |
| 70        |                               |                               | 9.40                          |
| 100       |                               |                               | 11.95                         |
| 150       |                               |                               | 15.31                         |
| 200       |                               |                               | 17.55                         |

#### Coefficient of Variation of k

| 605 nm | 600 nm | 510 nm |
|--------|--------|--------|
| 1.7%   | 1.7%   | 2.0%   |

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 the instrumentation used to measure absorbancies and thicknesses.

John D. Rishy  
 Authorization for Release

8 Jan 2008  
 Date



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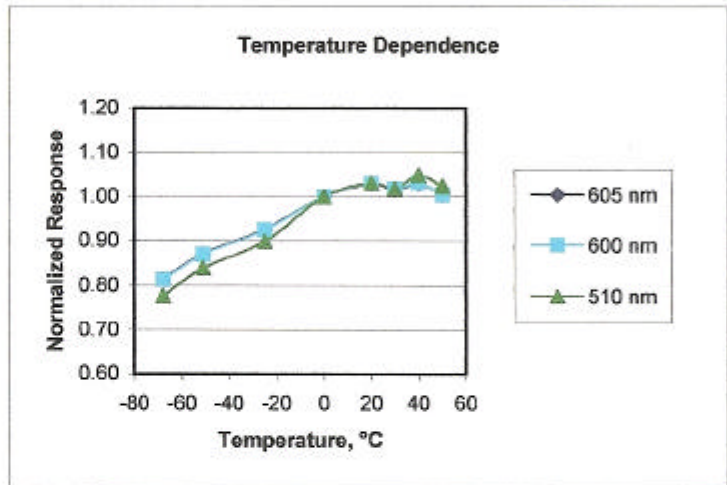
### Batch 1092

#### 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 |
|-------|-------------------------------|-------------------------------|-------------------------------|
| -68   | 31.92                         | 30.96                         | 3.50                          |
| -51   | 34.14                         | 33.13                         | 3.78                          |
| -25   | 36.29                         | 35.22                         | 4.05                          |
| 0     | 39.19                         | 38.08                         | 4.51                          |
| 20    | 40.30                         | 39.21                         | 4.64                          |
| 30    | 39.80                         | 38.73                         | 4.59                          |
| 40    | 40.35                         | 39.27                         | 4.73                          |
| 50    | 39.36                         | 38.26                         | 4.61                          |

| T, °C | Norm. k at 605 nm | Norm k at 600 nm | Norm k at 510 nm |
|-------|-------------------|------------------|------------------|
| -68   | 0.81              | 0.81             | 0.78             |
| -51   | 0.87              | 0.87             | 0.84             |
| -25   | 0.93              | 0.92             | 0.90             |
| 0     | 1.00              | 1.00             | 1.00             |
| 20    | 1.03              | 1.03             | 1.03             |
| 30    | 1.02              | 1.02             | 1.02             |
| 40    | 1.03              | 1.03             | 1.05             |
| 50    | 1.00              | 1.00             | 1.02             |



#### 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 |
|-----|-------------------------------|-------------------------------|-------------------------------|
| 28  | 42.00                         | 40.95                         | 5.07                          |
| 40  | 41.72                         | 40.68                         | 4.95                          |
| 45  | 40.98                         | 39.92                         | 4.81                          |
| 50  | 40.33                         | 39.30                         | 4.72                          |
| 56  | 38.26                         | 37.25                         | 4.43                          |
| 60  | 37.34                         | 36.33                         | 4.32                          |

| %RH | Norm. k at 605 nm | Norm k at 600 nm | Norm k at 510 nm |
|-----|-------------------|------------------|------------------|
| 28  | 1.04              | 1.04             | 1.08             |
| 40  | 1.03              | 1.03             | 1.05             |
| 45  | 1.02              | 1.02             | 1.02             |
| 50  | 1.00              | 1.00             | 1.00             |
| 56  | 0.95              | 0.95             | 0.94             |
| 60  | 0.93              | 0.92             | 0.92             |

