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FWT-60-00 Characterization

Batch 9F9

Coefficient of Variation of k

| 600 nm | 510 nm |
|--------|--------|
| 1.3% | 2.0% |

Variation in dose from $\pm 3\%$ variation in k at 30 kGy

| 600 nm | 510 nm |
|--------|--------|
| 4.3% | 3.4% |

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 | 8.21 | 1.02 |
| 10 | 15.46 | 1.78 |
| 30 | 38.88 | 4.60 |
| 50 | 55.10 | 6.80 |
| 70 | 61.03 | 8.57 |
| 100 | 64.41 | 10.75 |
| 150 | -- | 13.41 |
| 200 | -- | 14.96 |

Temperature Dependence

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

| T, °C | -75 | -37 | -4 | 0 | 10 | 20 | 30 | 40 | 50 |
|----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| k, mm ⁻¹ at 600 nm | 28.66 | 34.37 | 36.74 | 36.93 | 38.02 | 38.56 | 38.04 | 37.31 | 37.72 |
| k, mm ⁻¹ at 510 nm | 3.37 | 3.90 | 4.34 | 4.44 | 4.53 | 4.58 | 4.52 | 4.44 | 4.56 |

Humidity Dependence

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

| %RH | 32 | 39 | 42 | 46 | 53 | 58 |
|----------------------------------|-------|-------|-------|-------|-------|-------|
| k, mm ⁻¹ at 600 nm | 40.74 | 40.59 | 39.98 | 39.68 | 38.03 | 36.30 |
| k, mm ⁻¹ at 510 nm | 4.97 | 4.85 | 4.76 | 4.76 | 4.61 | 4.37 |

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