




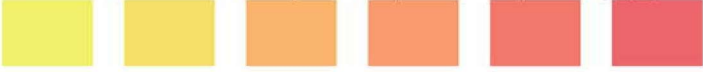



PRINTED PRODUCTS/THIN PROFILE RADIACHROMIC FILMS

<p>UV FastCheck Strips</p>	<p>--- UV exposure dose monitoring (narrow web, difficult to access, partially covered and 3-D applications) --- Good linearity color change vs accumulated exposure dose, large dynamic range of exposure doses – <u>five</u> sensitivity zones, broad spectral responsivity (suitable for undoped and various doped mercury sources) --- Comparison of multiple sources, quality control</p>  <p>Unexposed 100 200 400 550 800 1700 3400</p> <p>** Fusion single 300W/lin inch H-bulb, actual dose (mJ/cm²) measured with EIT radiometer, (UVA/UVB range)</p>
<p>UV Intensity Labels^a</p>	<p>--- UV exposure dose monitoring (narrow web, difficult to access, partially covered and 3-D applications) --- Good linearity color change vs accumulated exposure dose, large dynamic range of exposure doses – <u>single</u> sensitivity zones, broad spectral responsivity (suitable for undoped and various doped mercury sources) --- Comparison of multiple sources, quality control</p>  <p>Unexposed 100 200 400 550 800 1700 3400</p> <p>** Fusion single 300W/lin inch H-bulb, actual dose (mJ/cm²) measured with EIT radiometer, (UVA/UVB range)</p>
<p>EB FastCheck Strips^b</p>	<p>--- Electron beam (EB)/γ-ray exposure dose monitoring for varying accelerated voltage --- Depth of penetration profiling --- Comparison of multiple sources, quality control --- Radiation sterilization indicator</p>  <p>Unexposed 5 10 20 30 40 70 100</p> <p>** Dose in kGy, EB pilot curing line, 150 kV accelerating voltage, 50 fpm, 1.5" air gap</p>
<p>EnviroCheck Strips</p>	<p>--- Measure accumulated sun dose exposure over a period of a <u>day</u> in distinct increments --- Longer sun exposure products (measurement over a period of a <u>month</u>) are possible</p>  <p>Unexposed 0.5 1 2 3 4 6</p> <p>** Q-Sun Xenon test chamber (1.3 W/m² @ 420 nm, 50 °C): varying residence time in hrs</p>

<p>UVC Labels</p>	<p>--- UV exposure dose monitoring, specifically targeted for short wavelength, 254 nm, germicidal bulbs</p>  <p>Unexposed 0.5 1 2 5 10 20</p> <p>** 2 germicidal USHIO 9Wbulbs, 3inch distance, varying residence time in min</p>
<p>RoomLight</p>	<p>--- Measure accumulated room light dose exposure over a period of days in distinct increments</p>  <p>Unexposed 7 17 30 43 56</p> <p>** Indoor room with no windows, lit by a set of daylight fluorescent bulbs, stickers attached on the vertical wall not facing the lamp directly, lights on b/t the hours of 8 am and 5 pm, lights off during non-working hours and on weekends, varying residence time in days</p>
<p>SunGuard Strips^c</p>	<p>--- Simple personal guide against UV overexposure from the sun</p> <p>--- Calibrated to measure Minimal Erythral Dose (MED)</p>  <p>** Before sun exposure ½ MED 1 MED</p>

^a R. W. Stowe, Fusion UV Systems, Inc. Advanced Methods of Radiachromic Radiometry for UV Curing, *RadTech 2008*

^b I. Rangwalla, Energy Sciences, Inc. Quick and Easy Way to Characterize Low Voltage (80 – 125 kV) EB Accelerators Using FastCheck Strips, *RadTech 2010*

^c The medical community states that exposure to 1 MED results in a reddening of the skin. After 1 MED is reached people with fair and medium complexion are advised to seek protection from the sun.