

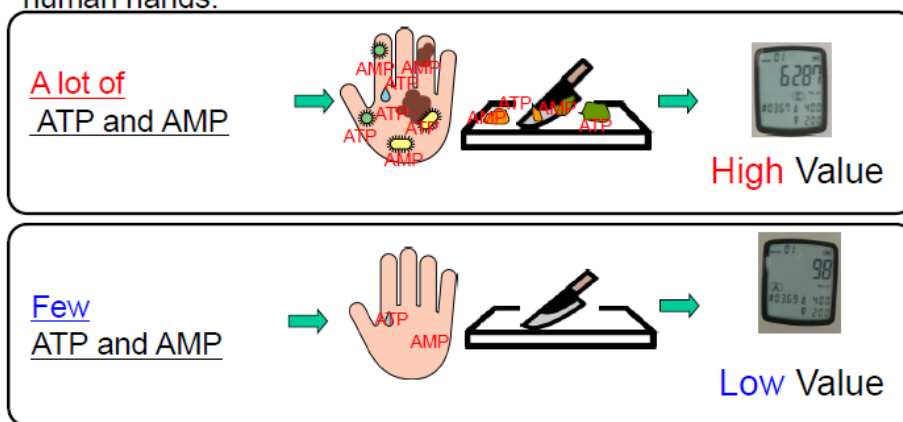
Technical Info

Lumitester PD30

Function and use

1.) Principle

- **ATP and AMP** are included for example in the dirt, in food manufacturing environments, food residues, microbes, human hands.




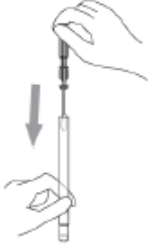






2.) Time lines



Technical Info

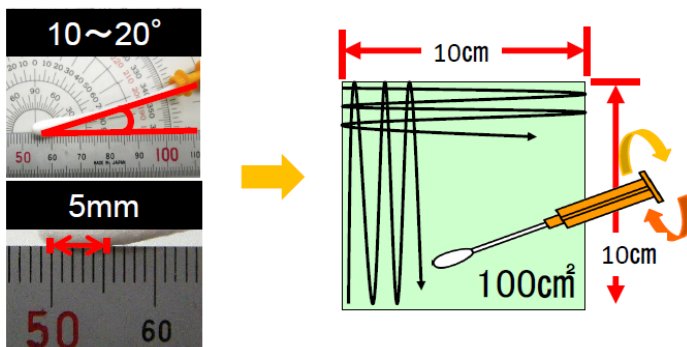
3.) Procedure

<p>1. Pull a cotton swab out of main body</p>	<p>2. Moisten the cotton swab with tap water</p>	<p>3. Wipe a target surface by the strength that a cotton swab stem are slightly bent</p>	<p>4. Set back the cotton swab stick into the main body</p>
			
<p>5. Push the cotton swab stick all the way inside</p>	<p>6. Dissolve the luminescence reagent with all releasing reagents</p>	<p>7. Put LuciPac Pen into the measurement chamber and close the lid</p>	<p>8. Measure its luminescence in the state that the instrument is not tilted</p>
			

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4.) Swabbing rules

10times back & force without making spaces



Different strength lead to different value



Too soft



Just right

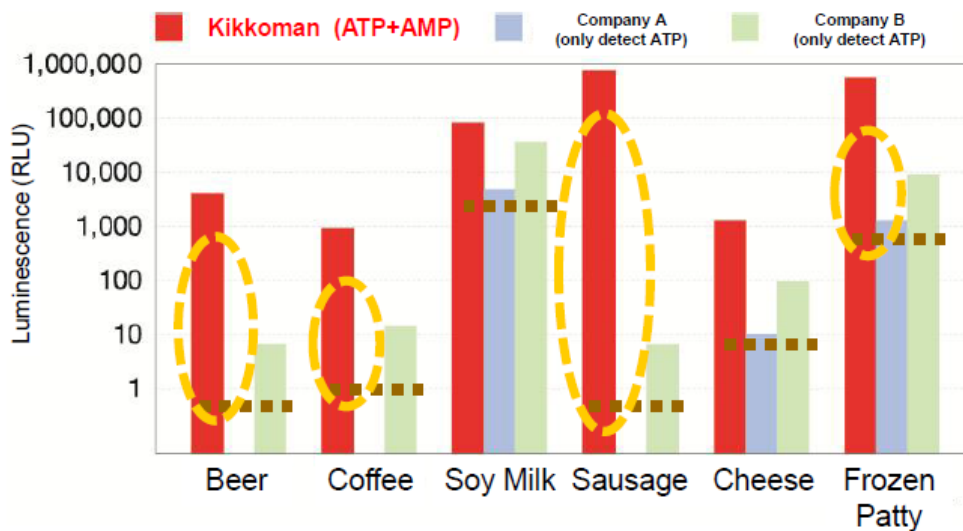
(Use whole Cotton swab and wipe with the strength that a cotton swab stem are slightly bent)



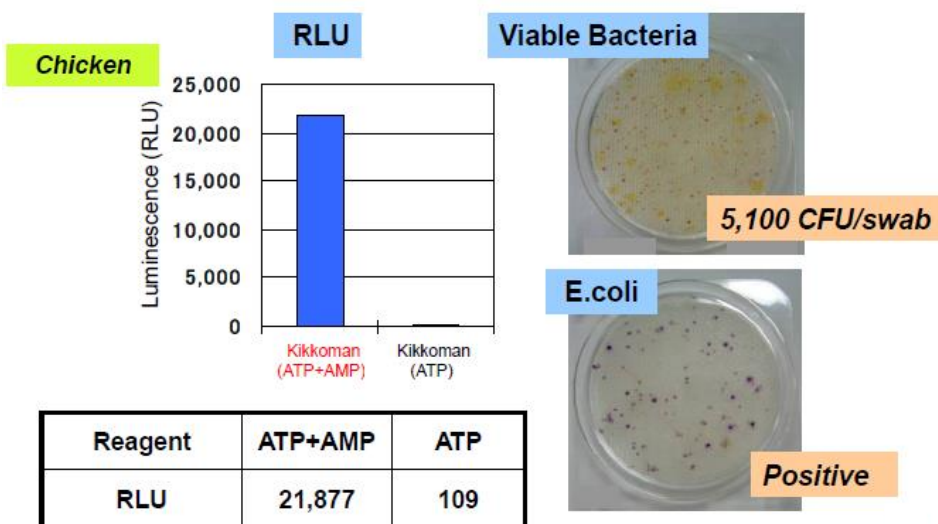
Too strong

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5.) Examples from food monitoring – Importance of measurement of both, ATP and AMP



Testing : Chicken minced on the cutting board

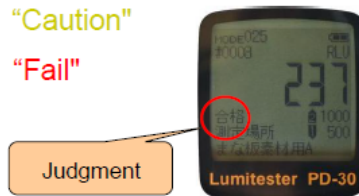


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6.) RLU benchmarks

Subject of examination	RLU benchmark
Material with smooth and hard surface	200 or less
Material with soft or fragile surface	500
Hands and fingers of a person engaging in kitchen duties	1500

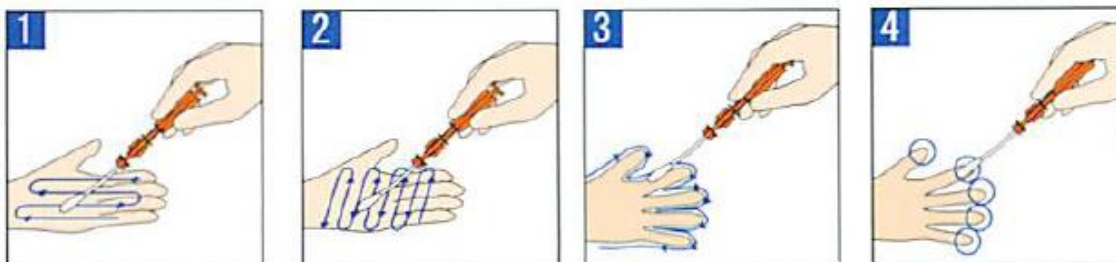
- Less than the benchmark : "Pass"
- Between 1 and 2 : "Caution"
- More than the twice the benchmark : "Fail"



Note: The benchmarks of mention are example for the LumitesterPD & LuciPac.

Examples:

Test site	Pass criteria (RLU)	Swab methods
▶ Hands and fingers		
Palm (hospital and nursing) Hygienic hand washing	1000	Swab the entire palm of the hand over 5-10 passes in the left-to-right and up-to-down directions as well as between fingers and the tips of fingers



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Test site	Pass criteria (RLU)	Swab methods
▶ Kitchen		
Kitchen knife	200	Swab the entire surface of the blade on both sides and the knife bolster
Peeler	200	Swab the edges of the peeler blade
Ladle	200	Swab the entire surface of the ladle except for the handle
Cutting board	500	Swab a 10 cm by 10 cm section at the center in the left-to-right and up-to-down directions
Colander	200	Swab a 10 cm by 10 cm section at the center in the left-to-right and up-to-down directions and also make a pass around the inside of the top edge
Faucet	200	Swab the entire surface of the handle of the faucet
Sink	200	Swab the four corners of the sink
Handle	200	Swab the entire surface of the handle
Food preparation table	200	Swab a 10 cm by 10 cm section at the center in both the left-to-right and up-to-down directions
▶ Hands and fingers		
Palm (kitchen) Social hand washing	1500	Swab the entire palm of the hand over 5-10 passes in the left-to-right and up-to-down directions as well as between fingers and the tips of the fingers

Test site	Pass criteria (RLU)	Swab methods
▶ Nurses' station		
Cart	200	Swab the entire surface of each arm
Stethoscope	200	Swab the entire surface of the chest piece
Sphygmomanometer pump	500	Swab the entire surface of the pump
IV pole	500	Swab the entire surface of the handle
Phone receiver	200	Swab the entire surface (inner side and outer side)
PC keyboard	200	Swab the entire outer surface
PC mouse	200	Swab the entire outer surface
Refrigerator (handle)	200	Swab the entire surface of the handle (inner side and outer side)

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Test site	Pass criteria (RLU)	Swab methods
▶ Hospital ward		
Overbed table	500	Swab each corner and a 10 cm by 10 cm section at the center in all directions
Door handle	200	Swab the entire surface of the handle
Bed side rails	200	Swab 10-cm-wide areas of the top of the side rails in three places (on the left and right sides and at the center)
Nurse call button	200	Swab the entire surface of the button
Switches	200	Swab the entire surface of each switch

Test site	Pass criteria (RLU)	Swab methods
▶ Stainless steel instruments		
Parts with uneven surfaces, box locks, and similar parts	100	Swab the surfaces of areas other than those touched by human hand
Devices and parts with complicated designs	100	Swab the surfaces of areas other than those touched by human hand
▶ Gastrointestinal endoscope		
Biopsy port	100	Swab as far inside the biopsy port as a cotton swab can be inserted. Thoroughly swab the entire inner surface of each channel while turning the cotton swab around
Suction channel	100	
Air and water channels	100	
Endoscope tip	100	Thoroughly swab the entire surface of the tip covering an area extending approx. 1 cm on the outer sides from the lens and tip
▶ Dialysis room		
Coupler	100	Swab the connectors



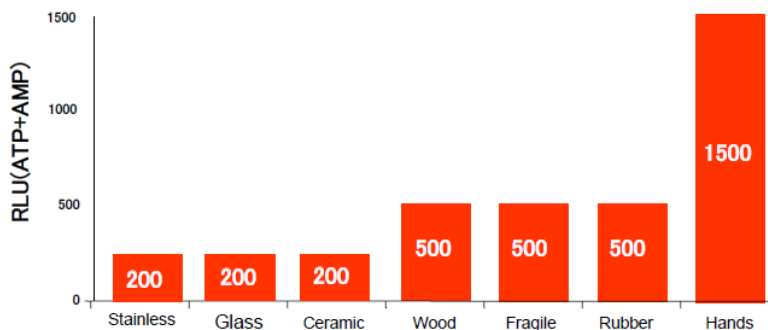
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7.) Self-Setting of benchmarks and cut-off points

- Start from basic values of material's surface from the leaflet
 - Smooth and Hard (Stainless, Glass, Ceramic)
 - Soft or Fragile (Wood, Rubber)
- From the Fact of Sampling Test 10 to 15times
 - Set from the achievable degree of cleanliness
 - Start with the method of "Establish Benchmark Values in 20days"
- Comparing with the fact of other indicator
 - "Comparing with Protein"
 - "Comparing with Indicator Bacteria"

Smooth and Harder → Washing is easy → RLU is Low

Soft or Fragile → Washing is difficult → RLU is High



The list of Benchmarks from material(as well known)