

Surface Testing Introduction

A reliable, quick and simple test has been developed to measure the amount of organic soil that is present on a surface. This test method is used extensively in the food preparation industry to confirm cleaning standards are maintained.

The test relies on the fact that all living cells have a protein present that is essential for the cell to live and remains intact even after death. For simplicity we shall call it A.T.P.

All that is necessary is to collect up a sample of the soil present on a surface using a pre prepared swab. Once the sample has been collected the swab is mixed with an enzyme that causes any A.T.P. molecules present to glow. (Only very weakly) The sample is placed in a dark chamber and the amount of light is measured and thus gives a measure of how much organic soil was present on the swab and in turn the surface. The degree of light given off by this process is referred to as relative light units (R.L.U.)

Below the chart indicates degrees of cleanliness before and after a single wipe with a Pure Wipe.

Test results using a Unilite Excel – from Biotrace

Type of Surface/Timing **R.L.U. (Relative Light Units)**

Table Surface

Before wiping	2566 RLU
Wiped quickly with Pure Wipe	112 RLU

Table Surface (spilled milk)

Before wiping	6733 RLU
Wiped quickly with Pure Wipe	552 RLU
5 minutes later	187 RLU

Tests on hands

	1st Person	2nd Person
Before wiping	5776 RLU	2685 RLU
Wiped with Pure Wipe	568 RLU	554 RLU
5 minutes later	342 RLU	115 RLU
After 1 hour	274 RLU	-----

Coffee Cup

Before wiping	1214 RLU
Single wipe with Pure Wipe	132 RLU
Re-wiped with fresh Pure Wipe	36 RLU

You will see two clear results the initial reduction typically a factor of 10 reduction in soil and after 5 minutes a further reduction often greater than a factor of 20 over the original soil levels. Values of 150 or less would be considered acceptable for food process equipment.