

# AEGIS by MICROBAN PRODUCT PERFORMANCE VERIFICATION

## ATP TESTING USING BIOLUMINESCENCE

ATP testing using bioluminescent metering devices has become the most commonly used form of testing for the cleanliness of surfaces. It is prevalent in the food processing industry and is used worldwide by auditors of commercial cleaning programs.

**Adenosine Triphosphate (ATP)** is present in all organic material and is the universal unit of energy used in all living cells.

ATP is produced and/or broken down in metabolic processes in all living systems. Processes such as photosynthesis in plants, muscle contraction in humans, respiration in fungi, and fermentation in yeast are all driven by ATP. Therefore, most foods and microbial cells will contain some level of naturally occurring ATP.

**Hygiena luminometers (in conjunction with ATP swabs)** use bioluminescence to detect residual ATP as an indicator of surface cleanliness. The presence of ATP on a surface indicates improper cleaning and the presence of contamination, including food residue, allergens and/or bacteria. This implies a potential for the surface to harbor and support bacterial growth.



## MEASURING CLEANLINESS TO DETERMINE THE PRESENCE OF PATHOGENS

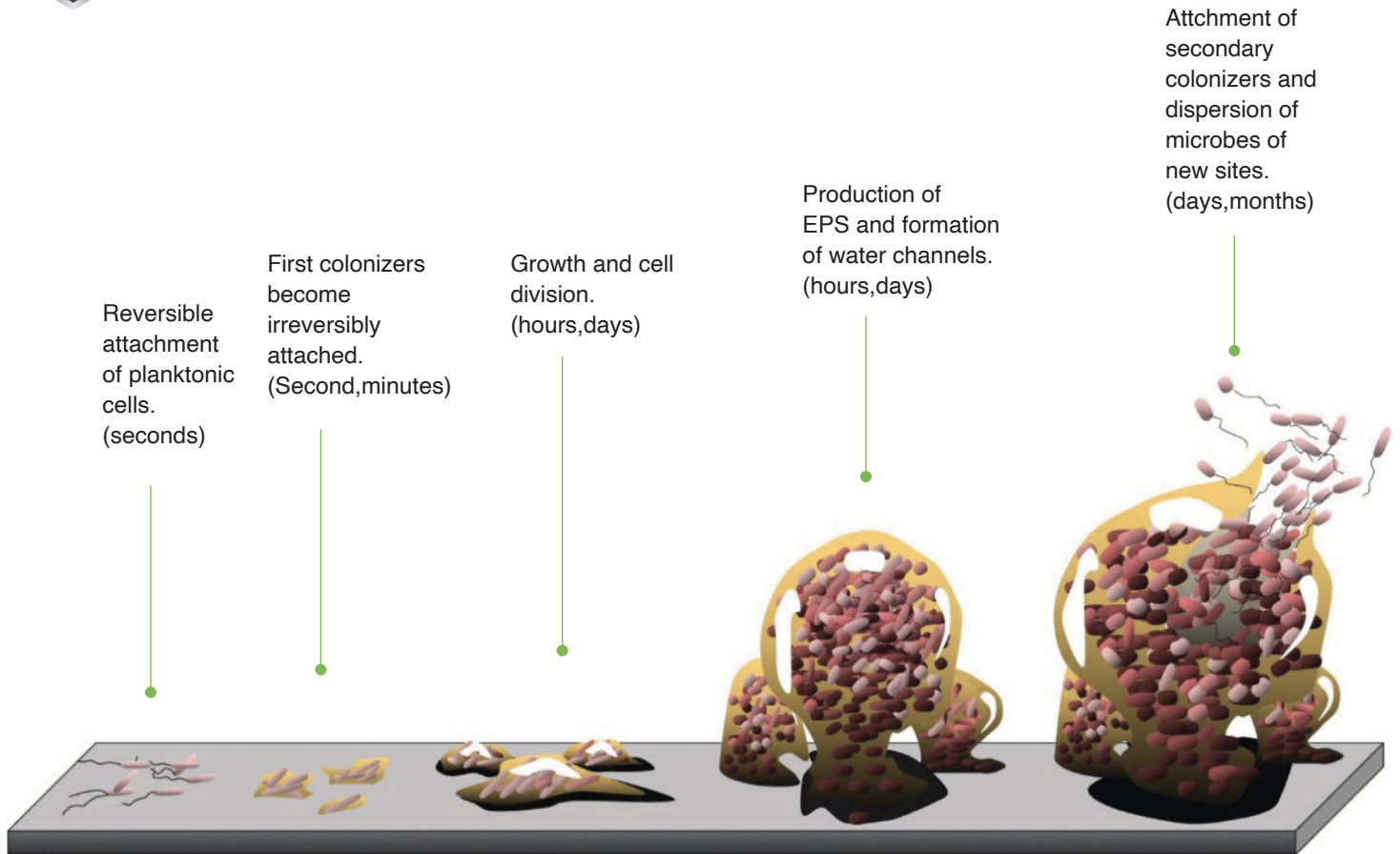
**The most commonly asked question is why do we clean the surface before testing? Doesn't this provide a false reading of the effectiveness of the AEGIS coating?**

The answer to this is "**No**", all ATP testing programs utilize a clean surface as the baseline for their comparison. While the primary use of ATP testing programs is to verify the efficacy of cleaning, it is also universally recognized that cleaning programs alone do not remove enough of the pathogens to make surfaces safe. That is why additional measures such as the application of sanitizers, disinfectants or the application of an antimicrobial coating such as AEGIS are utilized.

**Why are pathogens more difficult to remove than routine soils?**

Because they are living microbes that seek to adhere to surfaces and replicate. If successful, they create a biofilm, making subsequent efforts to both remove and deactivate (kill) them more difficult, even when using hospital grade disinfectants. The most effective solution to dealing with biofilms is to prevent them from forming, something that is a primary advantage of AEGIS's 24-hour, active physical destruction of microbes.





## OUR GOAL

The Integral team will ensure that your surfaces have low enough ATP readings to ensure a durable molecular bond is formed, guaranteeing a full year of protection on treated surfaces. Depending on the agreement for your facility, further testing may be developed for key points, at various frequencies, to ensure ongoing product performance. The results of the tests are contrasted against chosen control surfaces in your facility that did not receive surface treatment.

As AEGIS has been proven using ATP testing in demanding environments such as hospitals, typically this is only necessary if there is a requirement to meet audited standards. Our ATP testing can provide not only verification of the coating's performance, but also the overall effectiveness of the housekeeping programs. For a small additional fee, Integral will provide additional testing of surfaces prior to our auditor's cleaning, providing insight into your internal housekeeping performance.

## CONTACTS



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