

 **PeelPlate®**

PeelPlate® AC- Aerobic Count PeelPlate® AC- Aerobic
PeelPlate® AC- Aerobic Count PeelPlate® AC- Aer

OVERVIEW

This guide is a simplified explanation of how to sample, test and interpret aerobic, coliform and yeast and mold samples taken in food plants. This data may be used to develop, improve, and verify the effectiveness of hygiene and sanitation programs designed to reduce the risk of pathogens in food production.

SURFACE SAMPLE AND TESTING

Sample Preparation

1



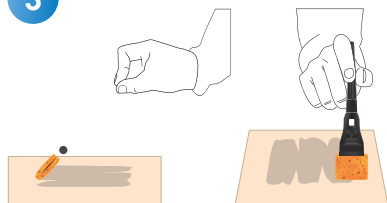
Open sampling sponge package at stick side.

2



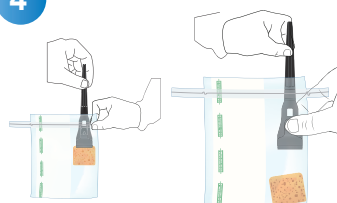
Tear open twist seal bag to retrieve sponge.

3



Grasping stick, press firmly to survey 100 cm² surface with the sponge end.

4

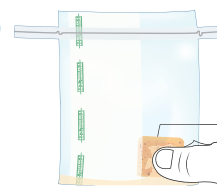


Place sponge and handle part way into opened bag.

Unclip the sponge by pressing the clip through the bag walls. Remove stick.

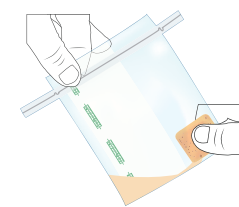
Test Procedure

1



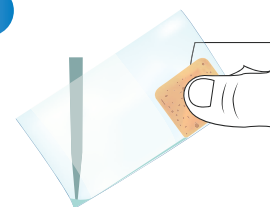
Handle sponge on the outside of the bag, squeeze and reabsorb liquid 3 to 5 times.

2



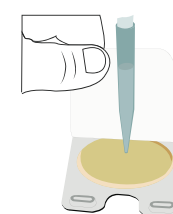
Tilt corner of bag upwards and squeeze sponge to rinse liquid to opposite corner of bag.

3



Open bag and pipet 1 mL of liquid.

4



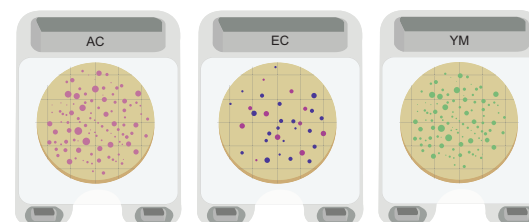
Peel tape and vertically pipet 1 mL sample in 2-3 seconds

Reseal tape.

5

Peel Plate	Incubation Times	Incubation Temperature
(AC) Aerobic	48 hours	35 °C
(EC) Coliform/E. coli	24 hours	35 °C
(YM) Yeast and Mold	3 to 5 days	At room Temperature or 32 °C

Read Results



Count spots, colony forming units (CFU) in a plate after appropriate incubation time. Since there are 10 mL of buffer in the sponge, multiply plate count by 10 to calculate the CFU/100 cm². If there are many colonies on a plate, the count on the plate can be estimated by counting colonies in 1 square cm and multiplying by 17.4.

AIR SAMPLING:

1

Remove adhesive cover and stick it to back foot of Peel Plate. Rehydrate with 1 mL of sterile water.

2



Leave rehydrated test on table top exposed to air.

2a



Or stick cover to wall and let rehydrated plate hang in circulating air.

3

Expose open test for 15 minutes to environmental air. Replace adhesive cover over plate and incubate for the specified times and temperatures.

INTERPRETATION:

Different food plants will determine their own performance specifications for indicators collected in sponge sampling. These specifications are based on established baselines after cleaning and incidence of bacteria in the food products. Indicators may not be correlated to pathogens; but, indicators are useful in monitoring log reduction steps taken during cleaning and sanitation as well as monitoring hygienic conditions during plant operation. The following are example guidelines that may be used in training programs.

PeelPlate[®] AC-Aerobic Counts

Aerobic counts are bacteria that grow in the presence of air. In general 10 or less detected from a sponge sample would indicate control in sanitation, while more than 10 would indicate improvements are possible.

1



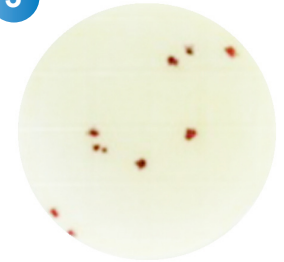
Excellent-Zero plates recovered

2



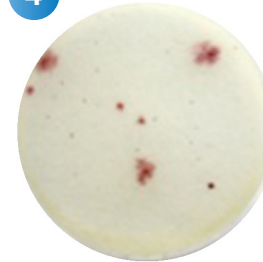
Very Good-One bacteria per plate (10 per 100cm²)

3



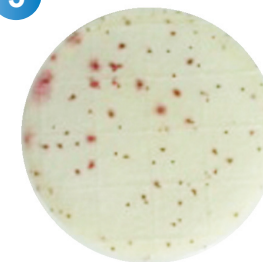
Fair-Ten bacteria per plate (100 per 100cm²)

4



Needs improvement-Forty per plate (400 per 100cm²)

5



Dirty-One hundred per plate (1000 per 100cm²)

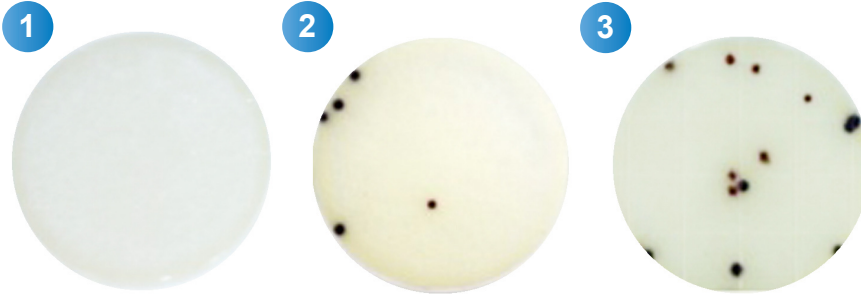
6



Very Dirty-TNTC or > 250 per plate (>2500 per 100cm²)

PeelPlate[®] EC - *E. coli* and Coliform

Coliform are bacteria that are more associated with intestinal sources of contamination and may include generic *E. coli*. They are closely related to enterobacteriaceae that include the salmonella group. These bacteria are easily killed in heat processes and should have a low incidence in foods and on surfaces.



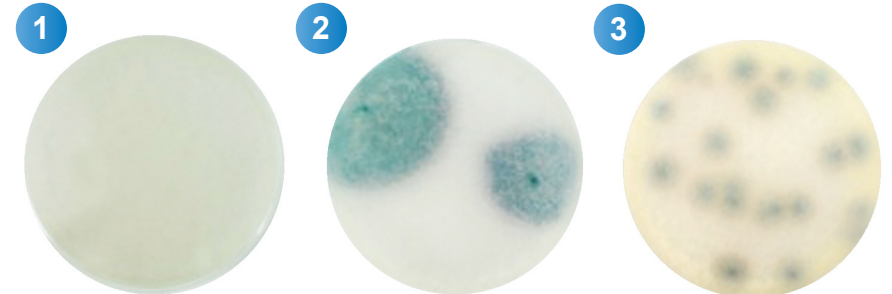
Good-Zero plates recovered

Needs Improvement-Five bacteria some blue (50 per 100cm²)

Dirty-Ten bacteria per plate (100 per 100cm²)

PeelPlate[®] YM - Yeast and Mold

Yeast and mold are microorganisms associated with food spoilage and their growth and survival are supported in damp environments. They are known to survive and spread in cooling and air systems.



Good-Zero Yeast and Mold recovered

Marginal-Two Yeast or Mold per plate (20 per 100cm²)

Needs improvement-more than 10 per plate shown are 19 per plate (190 per 100cm²)