Proper storage, method of application and shipping of environmental monitoring (RODAC) plates for surface testing can help ensure the accuracy and precision of microbiological results. This TechTip describes the best practices for the handling of RODAC plates.

General Information

- RODAC plates are to be refrigerated for storage at 40°F (2-8°C)
- Do not freeze and minimize exposure to light
- Plates should be stored with agar up and the lid down to minimize the potential of contamination from condensation
- Always wear gloves when performing sampling
- Do not use expired plates

Preparation

Prepare a test diagram for the areas that are to be tested and label plates with the corresponding location identification. Ensure that the label cannot be readily wiped off or removed. RODAC plates are prepared so that the agar surface is convex for sampling flat surfaces. Prior to sampling, the plates should be warmed to room temperature in the plastic sleeve for approximately 15-20 minutes with agar up and the lid down. Remove the quantity of plates from the sleeve that are required for testing. The location/site identification should be written on the base (agar portion, not the lid) of the plate.

Sampling

While wearing gloves, remove the lid from the plate with one hand. With the other hand, hold the base (agar portion of the plate) with thumb and middle finger. Use the index finger to gently press the plate on the test surface. Make sure the entire agar surface touches the test surface. Do not move the plate laterally while sampling as it will spread contaminants making enumeration difficult. Place the lid back on the plate and tape closed. Be sure to clean the test area after sampling to remove any residual growth media remaining on the surface.

Shipping

All RODAC plates should be packaged in a sleeve or bag, and the bag or sleeve should be bubble-wrapped and shipped in a cooler with freezer packs. Freezer packs should not be packed on top of or in direct contact with the plates. Ideally, samples should be received by Biotest Laboratories the same day as sampling.

Incubation

When Biotest Laboratories receives the RODAC plates, they will be logged in and processed according to the instructions provided on the test request form. Incubation is 3-5 days at 30-35°C. If additional incubation is requested, the standard is 2-4 days at 20-25°C after the initial 3-5 days @ 30-35°C. Additional incubation temperatures and durations are available, but must be requested in advance.

The above image demonstrates the proper procedure for the sampling of a surface contact plate.