

TECHNICAL ASSISTANCE BULLETIN

TOPIC: PLASTIC CLOSURE MOISTURE REMOVAL SYSTEM GUIDELINES

NUMBER: 0019 REVISION: B ISSUED: August 8th, 2022



Purpose

This bulletin summarizes the importance and best practices for moisture removal in the annular space of plastic closures after capping, processing, and cooling.

Definitions

- **Annular Space:** The opening area between the plastic bottle finish and the inside of the applied closure. This area should be kept clean (minimize sloppy fill) and as dry as possible to prevent any potential microbial growth on the bottle finish. This is especially important in shrink wrap secondary packaging applications as the shrink wrap can entrap unevaporated water (Figure 1).

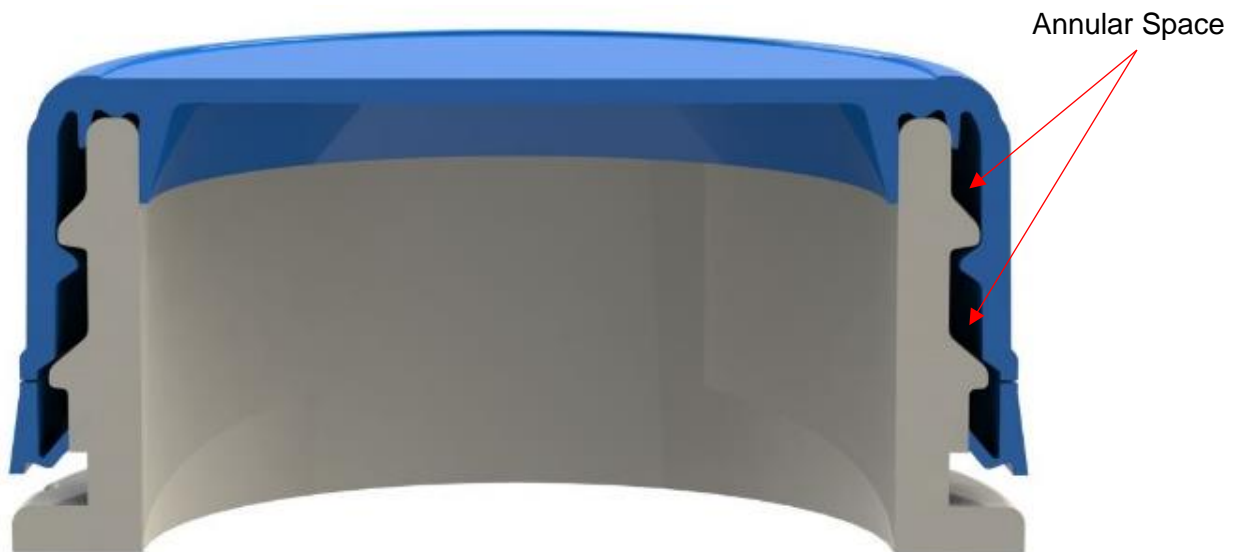


Figure 1: Fully applied plastic closure cut through view.

Moisture Removal System Guidelines

- Air knives should be located before the labeling machine on a single file conveyor lane.
- Air knives should be evenly spaced on at least a 20" span of straight conveyor.
- Each side of the conveyor should consist of at least 3 or more air knives.
- Air knife assembly should be fully adjustable for both height and width.
- Air knives should be positioned so that the air flow is pointed into the direction of the annular space
- Air pressure should be adjustable.
- Air quality should be dry and clean.
- Moisture removal systems should be checked on a routine basis for proper functioning:
 1. Remove consecutive packages exiting the moisture removal system.
 2. Dry package body and exterior over a dry surface.

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3. Grip the container and shake over a dry surface or your free hand.
4. If water droplets are detected, the moisture removal system should be adjusted until the water trapped in the curl/finish area of the package is eliminated.



Figure 2: Commonly used Paxton cap dryer system. Silgan recommends this or a similar style system for effective moisture removal.

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