

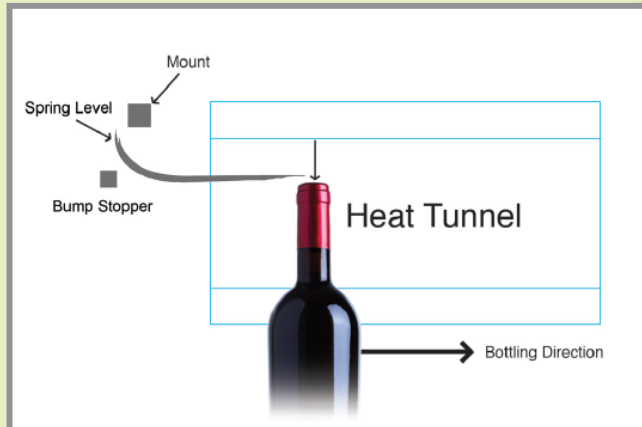
# Capsule Application - PVC

## Application by Heat Tunnel

First, ensure the track and guide plates will position the bottle such that it is centered within the tunnel. Without proper centering the capsule will be subject to more heat on one side (which will result in uneven shrink down).

Second, position the height of the heat tunnel such that the capsule begins shrinking near the head of the bottle first and then down the body. This will help to prevent the capsule from rising up during shrink down.

Additionally, it is important to have the bottles rotate as they begin to be subjected to the heat. Rotating the bottles allows for even distribution of the heat, resulting in a more even shrink down. Generally, 3 foot long heat tunnels will accommodate bottling speeds up to 200 bottles per minute at the appropriate settings. Adding a lever to keep the capsule down until the capsule starts shrinking will aid in preventing "top hatting" on Page 5.

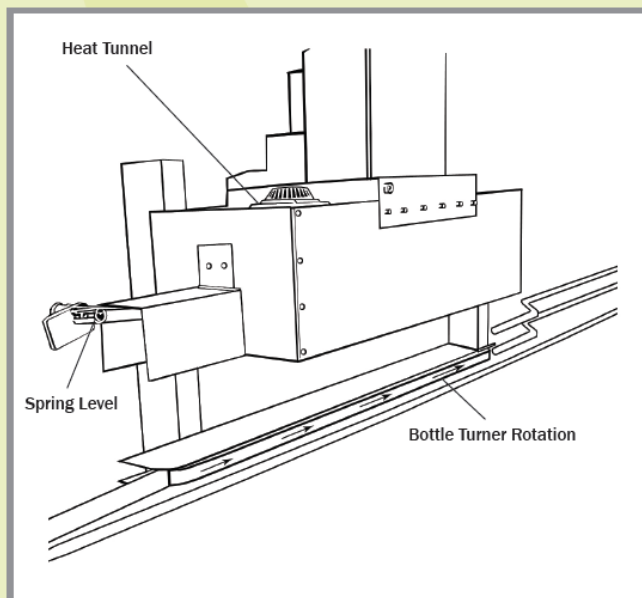


## Application by Heat Heads

First, ensure that the bottle is centered while entering the heat head.

Ensure that the bottle enters and exits the head at a consistent rate. Bottles should not shift from side to side as they travel the circumference of the heat head unit. A purge air system is highly recommended to ensure even application and distribution of heat.

Check that all feet are in good order. The ceramic style should be replaced as they crack or chip. Heat heads with purge air will require regular adjustment to ensure that the air is forming a cone shape over the capsule. If the air flow is uneven, the capsule will distort as it shrinks.



## General Recommendations

### Heat Settings

During this process, keep in mind darker colored capsules will require *less* heat and lighter, more metallic colors will require *more* heat to achieve optimum shrink down. The easiest method for determining temperature settings is to begin at a low temperature and work your way up to the point the capsules are just beginning to shrink. Document this temperature setting then bring the temperature up to the point the capsule is beginning to show signs of pull back or separation at the glue seam. Document this setting and then determine the mean temperature. This should be your average run temperature setting.

### Dwell Time

The amount of time required to achieve optimum shrink will vary greatly by the size of the capsule, bottle, capsule color(s), bottle temperature, line speed and desired shrink down quality. Each operation will find their settings to be unique to their operating environment, equipment and capsule color(s). Your bottling line technicians will have to determine proper balance between dwell time and temperature.