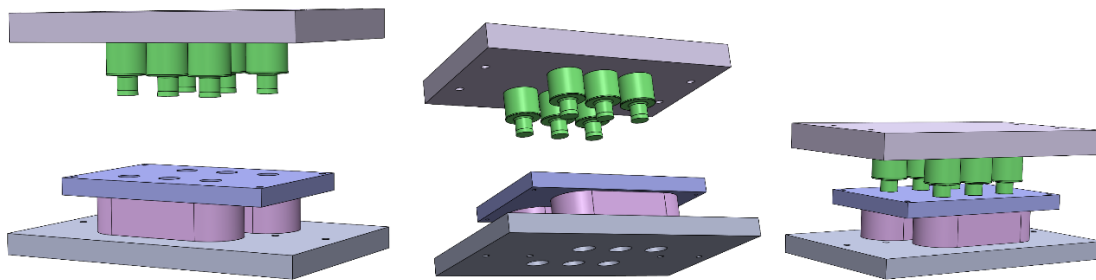


Heat expansion in multicavity tools

Fiber-based screw caps are today possible to produce using high precision tooling in a process developed by Blue Ocean Closures. The process utilizes high pressure and heat to form dry cellulose fibers into complex shapes with high mechanical strength. The heated tooling is mounted into a press on thick steel plates. Heat from the tooling warms up the steel plates and the press. This might lead to heat expansion causing misalignment of the upper and lower part of the tooling. The configuration of the upper and lower part of the tool differs which makes it hard to predict the effect of heat expansion. To complex things even further the tooling might be ran with different temperatures in the upper and lower part. The tooling is calibrated at the intended working temperature but during long production runs the temperature might start to drift as heat builds up in the surrounding equipment.



It is critical to know the temperature operating window connected to the effect of heat expansion effects to design the control system parameters and also identify if it is needed to use of active cooling in combination with controlled heating to be able to keep the temperature within a narrow interval.

At Blue Ocean Closures we would be happy to address the challenge of heat expansion in the multicavity tool together with you.

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