

Moisture Boosting with PreVap and CoolVap

After the conditioning process, the conditioned material cools down and loses part of the moisture it has just introduced. The greatest loss of moisture occurs immediately after the end of the process, as the temperature difference between the process and ambient temperature is large. Quick packaging of the bobbins is necessary or unavoidable in order to maintain the moisture content. The PreVap and CoolVap system was developed to introduce additional moisture into the bobbins and to retain it after the process. The PreVap and CoolVap systems work in two ways.

PreVap

Before starting the first vacuum, the material to be conditioned is misted with a water- air mixture. The outer layer of the good is now considerably colder than the ambient temperature. The temperature difference between the outer layer of the bobbins and the steam flowing in after the vacuum, is therefore increased. Since the steam heats the bobbins by means of condensation, more steam is required for the now higher temperature difference, which also brings in more moisture.

CoolVap

In order to avoid rapid evaporation of the moisture introduced in the conditioning process, the material is misted with a water- air mixture before the end of the process. As a result of the fogging, the outer shell of the cones cools down in the container, while the humidity inside the cones does not change.

When the cones are removed, the outer layer has already almost reached ambient temperature, which prevents the rapid loss of moisture immediately after the end of the process. The cones keep their moisture longer, which enables a higher final moisture level or a longer time to packaging.

Trials

Internal test series showed that the PreVap and CoolVap system achieved a relative **moisture increase of 10-20%** in cotton bobbins 30 minutes after the process compared to conventionally conditioned bobbins.

No germ or mold formation could be recorded within the test series. The Bobbins were packed directly after the conditioning process and showed impeccable conditions even after weeks.

Utilisation of PreVap and CoolVap

Customers can decide which one of both options shall be used. In principle, both have its advantages. The highest advantage is when used in machines conditioning with pin trucks, where the bobbins are openly disposed to gain moisture. Using pallets, however, there needs to be a minimum distance of 5 cm form bobbin to bobbin to allow a good distribution. This makes the utilization quite difficult as 5 cm is not realistic for pallets.



PreVap / CoolVap fogging function with open machine door



Fogged conditioning material