TESTING WVTR OF PRE-FILLED BLISTER SAMPLES

TECHNICAL NOTE

Evaluate your blister package's overall barrier level and sealing quality by testing for Water Vapor Transmission Rate (WVTR) using the newly designed Pre-filled Blister Test Cartridge.

Background

Pre-filled & sealed blister samples are prepared by manufacturers per their production specifications. By determining the pre-filled blister sample's WVTR, one can evaluate the moisture barrier level of the blister materials, as well as the leakage from the seal of the blister. It serves as a quality check to ensure the integrity of final blister package.

Generic foil blister pack

Parameters and steps

To successfully test the WVTR of pre-filled blister package samples, a special Blister Cartridge (Part#: 054-575) is available with the features below (Figure 1).

- The carrier gas chamber of the cartridge is designed to be deeper to accommodate multiple blister samples with different sizes.
- A blank foil mask is required to block the bottom sealing plate (with O-rings), so that the lengthy outgassing from the O-ring is eliminated in the carrier gas side.
- Since the driving force is from the water source within the liquid (water or solutions) pre-filled blister, no test gas is needed. The test gas side was therefore designed very shallow to make the overall cartridge thickness meet the allowed dimension specification in the Film Test Analyzers.
- Single or multiple sealed pre-filled blister(s) will reside in the carrier gas chamber (Figure 2).

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SIMPLE SETUP FOR PREFILLED BLISTER TESTING

Parameters and steps, continued

- The WVTR measurement follows general methodology as described by ASTM F-1249.
- To denote the test for the blister package, g/(package • day) should be used for test result unit.
- If the liquid inside the blister is pure water, the test is considered being at 100%RH, which can be ratioed to other RH conditions if the blister material is Fickian or non-permeable foil.
- The WVTR result of blister samples are usually very low. It is recommended to run a test without any blister samples but using the foil only. This system zero is subtracted from the blister sample's test result.
- The Cartridge is compatible with MOCON's Next Generation Film Analyzers such as PERMATRA-W 3/34 and AQUATRAN 3.
  - Always select Advanced-Test Mode for package permeation testing.
- The Blister Cartridge adds value to R&D and evaluation processes where fast turn-around is appreciated, particularly when compared to the traditional gravimetric method used in pharmaceutical industry.

Note: For testing OTR and/or WVTR of empty blister samples, a different cartridge is used. Please refer to Technical Note "How to Test Empty Blister Samples" for details.

Figure 1.: Blister Test Cartridge for Pre-filled Blister's WVTR testing (P/N 054-575)

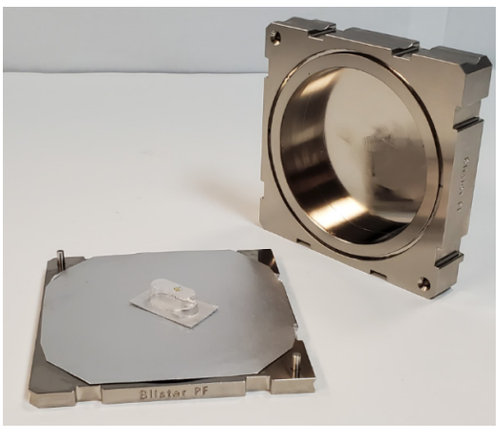

Figure 2. Pre-filled Blister Packs inside the Carrier Gas chamber

Conclusion

With the use of the Pre-filled Blister Cartridge, WVTR testing is as convenient and easy as testing a film sample, with an astonishingly fast turn-around when compared to the traditional gravimetric method. High repeatability and accuracy are achieved with the cartridge's exclusive TruSeal® design, as well as through the use of MOCON's Next Generation Film Analyzers. A special User Guide will be provided if you purchase this Pre-filled Blister Test Cartridge.

If you want to know more about this cartridge, please contact AMETEK MOCON's sales manager in your area.

Questions?

Call MOCON to speak with a certified technical support specialist.

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