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## Atmospheric Conditioning - Medistri

### Atmospheric Conditioning

Packages need atmospheric testing to ensure that they can withstand different environmental conditions and protect the products inside them. For example, packages that are shipped to cold or hot regions may experience changes in temperature and humidity that could affect the quality and safety of the products. By simulating these conditions in a laboratory, packaging engineers can evaluate the performance and durability of the packaging materials and design, and make improvements if needed. Atmospheric testing can also help reduce product waste and increase customer satisfaction by extending the shelf-life and freshness of the products.

Atmospheric Conditioning simulates the effects of different temperature and humidity levels on packages and products. It's often used to evaluate the performance and durability of packaging materials and products under various environmental conditions.

Atmospheric conditioning is important because it simulates the effects of extreme or changing temperature and humidity levels on the package or product. This can help evaluate how the package or product will perform and survive in different environmental conditions that it may encounter during transport, storage, or use. Atmospheric conditioning can also help identify any potential problems or failures that may occur due to temperature and humidity variations, such as cracking, warping, fading, corrosion, or mold growth.

✚ By testing the package or product under atmospheric conditioning, packaging engineers can ensure that the package or product meets the quality and safety standards and expectations of the customers.

Atmospheric conditioning is performed by placing the package or product in a chamber that can control the temperature and humidity levels according to the specific standard or requirement. The package or product is then exposed to different temperature and humidity cycles that simulate the extreme or changing environmental conditions that it may encounter during transport, storage, or use. The duration, frequency, and intensity of the cycles vary depending on the type of package or product and the intended destination or market.

Medistri can validate your packaging according to ISTA 2A, ISTA 3A, ASTM D7386 and ASTM D4169. They ensure the quality, safety, and efficiency of packaging materials and processes. By adhering to these standards, Medistri enhances customer satisfaction, reduces product damage, and minimizes waste. These standards also help us comply with the regulations and expectations of different markets and industries.

- ISTA 2A and ISTA 3A are partial and general simulation performance tests, respectively, that are designed by the International Safe Transit Association (ISTA) to evaluate the performance of packages under various environmental and handling conditions. These tests include atmospheric conditioning as one of the elements, which simulates the effects of temperature and humidity changes on the packages. The purpose is to expose the packages to realistic climatic scenarios that they may encounter during transit, such as tropical wet or winter/frozen.
- ASTM D7386 and ASTM D4169 are standard practices for performance testing of packages for single parcel delivery systems and shipping containers and systems, respectively, that are developed by the ASTM International (formerly known as the American Society for Testing and Materials). These standards also include atmospheric conditioning as a component of the testing procedure, which follows the guidelines of ASTM D4332, the standard practice for conditioning containers, components, and unit loads for testing. The objective is to precondition the packages to a specified temperature and humidity level before subjecting them to other tests, such as vibration, compression, and impact.

Should you fully validate your packaging system or should you simply test one particular characteristic of your sterile barrier system, Medistri laboratory is accredited and highly experienced for the most common test methods.

📍 To learn more about Medistri's Atmospheric Conditioning, visit on our website [here](#) or directly contact our team at [contact@medistri.swiss](mailto:contact@medistri.swiss).

- The Medistri Team

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