



Ultrasonic Sealing System

Especially for Mono-Material Laminates

Flexible Laminates

Packaging made from mono-materials is in demand and has long been an integral part of everyday life. However, the sealing of pouches made from mono-materials poses a major challenge. This is because mono-material laminates have a narrower sealing window than traditional laminates. Especially with thermal sealing, the required temperatures can quickly cause films to stick to tools.

Ultrasonic sealing with targeted energy input in the sealing layers is more gentle. This minimises the risk of material sticking to sealing tools and the waviness of the pouches is reduced. This facilitates further processing such as spouting or filling.

Ultrasonic Sealing – Process and Mode of Action

Mechanical vibrations are introduced into the workpiece with a specific frequency, amplitude, force, and time into the workpiece. By converting ultrasonic vibrations into mechanical vibrations the heat required for plasticising is generated. Within milliseconds, interfacial friction causes the components to be joined to heat up. The damping coefficient and temperature increase, and the desired melt is created. With the appropriate pressure (depending on the material), the parts are welded together.

Advantages Compared to Thermal Sealing

- Due to the different mechanical load compared to thermal sealing the pouch remains optically and technically intact. The flatness of the pouches is perfect.
- Ultrasonic sealing involves two seams: one decorative seam and one functional sealing seam. With thermal sealing, only one sealing seam is made for stability.
- The base web is folded in during ultrasonic sealing at Wipf, not fed in separately. This allows registered print designs on the base web.

Further Advantages of Ultrasonic Sealing

- PET is not necessary as a heat shield. Recyclable or biodegradable laminates can also be used.
- Narrower seams save material.
- Thanks to lower temperatures, no plastics are burnt and therefore no pollutants are released.
- Continuous monitoring ensures a high level of process reliability.



Processable Materials

The ultrasonic sealing system is versatile and can process a wide variety of laminates. It works perfectly for foil based and foil free materials as well as mono-material laminates. Mono-materials in particular, with their smaller temperature differences between the inner and outer layers benefit in particular from processing by ultrasonic sealing.

Would you like to find out more about our ultrasonic sealing? Then we look forward to hearing from you by phone or email at:

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