

Application example

Compensation membrane

PLASTIC WELDING

METAL WELDING

CUTTING

CLEANING

SCREENING



Task

A compensation membrane must be welded onto a ventilation opening for a plastic medical technology part which is exposed to fluctuations in temperature, pressure and humidity. Due to the high requirements regarding the appearance and function of the compensation membrane, an aesthetically attractive and tight weld with minimal particle flight is required.

Solution

Torsional technology is used to meet the high welding requirements. In contrast to conventional linear ultrasonic welding technology, the vibrations are transferred to the component tangentially rather than vertically.

Configuration advantages

The advantages of torsional welding technology with a tangential rubbing and cutting motion around the edge of the weld zone include an optimised appearance and a lack of fraying around the edge. The torsional rubbing motion, which is tangential to the component, minimises or even eliminates particle flight. A further advantage of this configuration is that the membrane is cut out of the base material and welded into the plastic part in a single work step.



The application was produced with torsional SONIQTWIST® components of a TSP750 20kHz/1200W welding system integrated in a special system.