

Application example

Welding in PTFE membranes

PLASTIC WELDING

METAL WELDING

CUTTING

CLEANING

SCREENING

**Task**

A membrane is to be used to create a watertight seal for a ventilation opening in an electronics housing for the automotive industry. In such applications it is usual to weld a PTFE membrane into the housing so that any existing moisture can escape and the pressure can be equalised. These membranes are very delicate and cannot be tightly welded to all base materials using longitudinal ultrasonics.

Solution

In this case, the task was performed reliably with torsional SONIQTWIST® technology and the process runs fully automatically in a production line.

Configuration advantages

Torsional technology makes it possible to weld PTFE membranes tightly and reliably to different materials, even those with high glass content. The membrane is not damaged in any way. When equipped with vacuum technology, the sonotrode can pick up the prepunched membrane from a magazine and weld it into the part. There is no need for a handling device and the process is very fast and reliable. If the sonotrode is fitted with a cutting edge, the membrane can be punched out from a strip and welded into the part at the same time.



The application was carried out with torsional SONIQTWIST® components, 20kHz/1200 W, built into an automatic production line (SE2010 TC converter and MAG ultrasonic generator with bus module).

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