APPLICATION SHEET

PLASTIC

PTFE MEMBRANES FOR THE AUTOMOTIVE INDUSTRY

The task

Welding PTFE membranes.

A lid is to be attached to an electronics housing for the automotive industry and welded to be watertight.
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 equalized.
These membranes are very delicate and cannot be welded air-tight to all base materials of the housings using longitudinal ultrasonic welding. (PA6.640GF)

The solution

In this case the task was reliably accomplished using the torsional TSP750 technology.
The application runs fully automatically.

The advantages

With torsion it is possible to achieve a secure and air-tight connection between PTFE membranes and a range of different materials, including those with a high proportion of glass content.
The membranes are not damaged in any way.
When fitted with vacuum technology, the sonotrode can retrieve the pre-punched membrane from a magazine and weld it into the part. No handling unit is required; the process is very secure and fast.
A vacuum sonotrode can also be used to punch the required membrane shape from a tape and simultaneously weld it into the part.

The application was carried out on a TSP750 using additional components for the special rigging.

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