

Application example

Coin insert cover

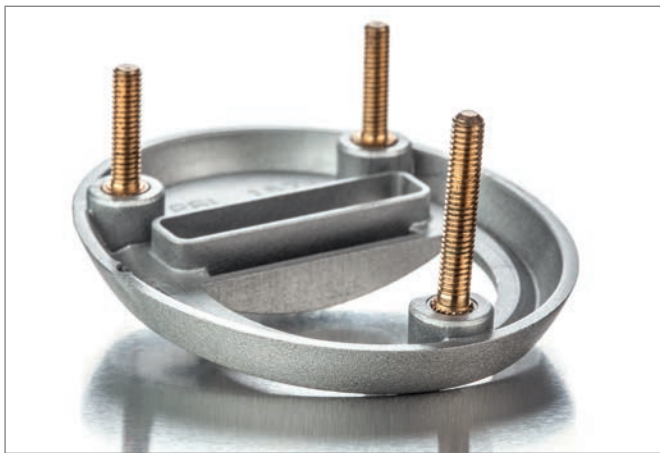
PLASTIC WELDING

METAL WELDING

CUTTING

CLEANING

SCREENING



Task

Three brass threaded bolts for fastening are to be applied to an injection-moulded cover made from polycarbonate/ABS for inserting coins in vending machines. The mounting bolts must be cheaply and securely anchored in the plastic.

Solution

Using ultrasonics, three standard commercial SonicLok® threaded bolts can be simultaneously melted into the injection-moulded holes. The use of a CNC-copy-milled fixture ensures that the visible component surface is not damaged. Indexing pins in the fixture ensure the correct insertion position. A sonotrode made of tempered steel ensures minimal wear.

Configuration advantages

Compared to the use of heat, the embedding of threaded inserts with ultrasonics is five to six times faster and thus very efficient. When embedding with ultrasonics, energy consumption is significantly lower than with heat, resulting in a higher degree of efficiency. The process is very environmentally-friendly, as no adhesive is used, and high pull-out resistance can be achieved. With an appropriate sonotrode design, the three bolts can be embedded at the same time.



The application was produced on a 20 kHz USP3000 ultrasonic welding system. Option: Sonotrode for simultaneous embedding of four SonicLok® threaded bushes.