

High Vacuum Soldering

Static Mixer



VERFAHRENSTECHNIK

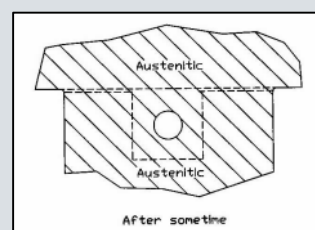
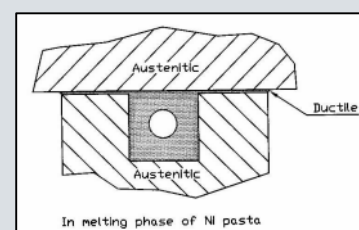
STATIC MIXERS

EREstat®

Helical

STV

STX



HIGH VACUUM SOLDERING



Creation

The procedure for the production of static mixers with **gapless soldered-in** mixing elements has been tested and developed over many years. It begins with the production of a special tube with the required internal diameter. The mixing elements to be soldered in are furnished with longitudinal slots, which are then filled with solder. The mixer element chain is then inserted into the pipe, which is heated in a **vacuum furnace** to more than 1000 °C in defined temperature stages. This is the melting phase.

During this process the solder diffuses into the tube material and into the elements, resulting in a crystal transition. The gapless connection between the mixer element and the inner tube wall is created during the crystallisation and maturing phase.

Appliance

Each year we produce several hundred of these gapless mixing tubes for a wide range of end-use applications. As an example, the image shows 31 product tubes integrated in a tubular heat exchanger and equipped with gapless soldered-in mixer elements in order to improve the **heat transfer** significantly and prevent incrustations. Other applications include situations where dead space must be avoided, such as **pharmaceutical applications**. The soldered mixer elements also tend to be used in processes where large **axial forces** occur due to the product characteristics (high viscosity), since the forces can fully be absorbed by the tube.

No gaps between mixing elements and pipe

No gaps between mixing elements and pipe are difficult to verify with measuring equipment (e. g. x-ray, ultrasound). In these **examination procedures** the elements cause irritating shadows, which preclude clear statements. Optical examination is currently the only way to assess the components. Assurance of no gaps between mixing elements and pipe is a frequent requirement. We will be pleased to discuss your requirements and demonstrate our products and capabilities.