

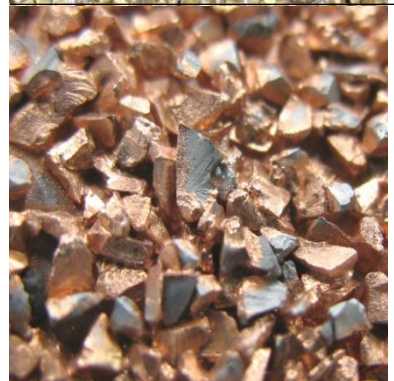
# Efficiency Enhancement for Vibration Welding

Grip coating made with hardmetal grits



Heat Treatment  
Sintering (MIM)  
Brazing  
Thermal Spraying  
Electron Beam Welding

Engineering



# Tools for vibration welding with outstanding application properties

## Competence:

Listemann AG is a leading service-contractor in Europe in the field of joining-technology, especially vacuum-brazing. For many years we have manufactured cutting tools and abrasive tools with hard metal, cBN or diamond by vacuum brazing. Own developments in special brazing alloys and designed grit placement give us unique market position.

## Customer benefit:

Convincing statement of a customer (large automotive supplier):

"By the use of a brazed hard metal coating on our welding tools we could **reduce welding time significantly**, **increase tool service time** and **improve welding quality**. By the overhaul of worn tools we could gain **significant cost savings** by using Listemann brazing technology".

## Advantages:

Conception and tool design remain know-how of the tool maker.

Our brazing process results in high strength metallurgical bond between hard material and tool carrier which gives better service properties for all applications where high mechanical load and/or elevated temperature occurs.

## Services:

- technical support in the phase of design and material selection
- vacuum-brazing of prototypes and serial production at affordable costs

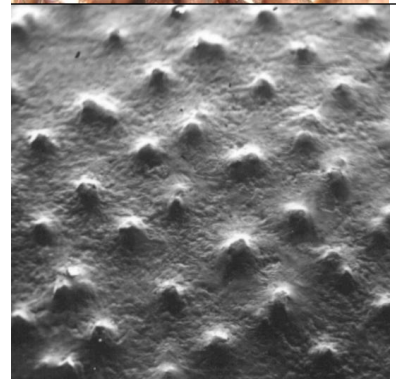
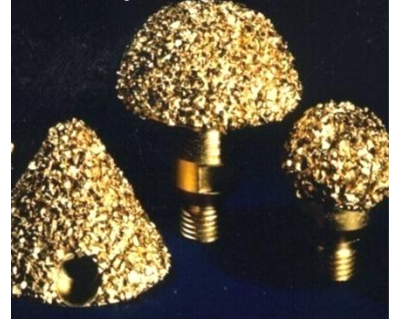
## Materials:

- tool carrier made of almost all steel grades
- grip coating with brazed hardmetal grits (tungsten carbide) with grit size from 0,1 up to 3mm

Size of brazed hardmetal grits and concentration can be chosen by the customer.

Available grit size:  
0,1-0,3 / 0,3-0,5 / 0,6-1,0mm  
....or even larger

Example: Grinding tool with brazed hardmetal grit coating



  
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