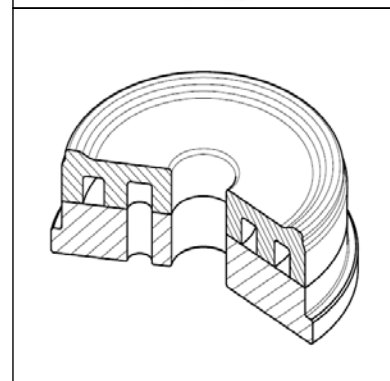
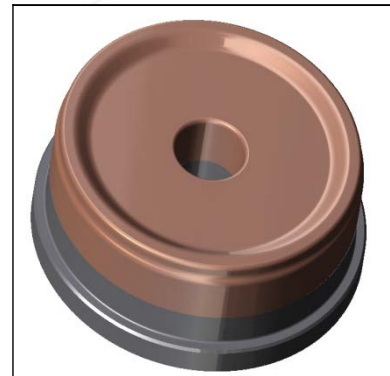
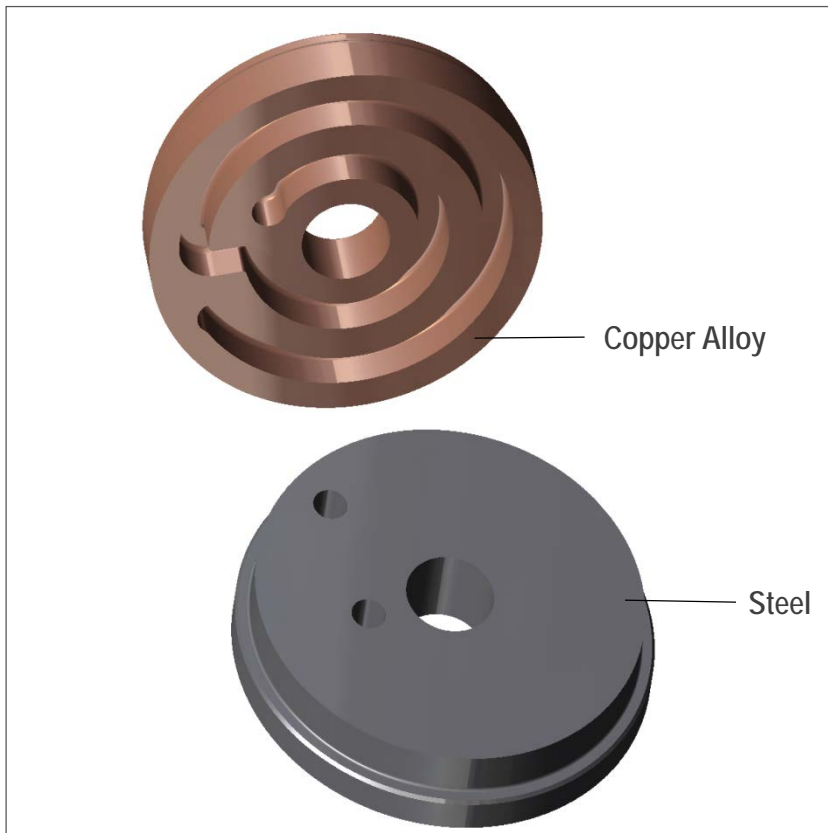
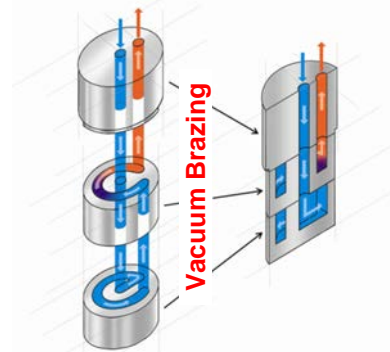


Hardenable Copper Alloys for Tooling Industry

From prototype to serial production

Vacuum brazing technology for customized material combinations

Vacuum Brazing&Hardening
Additive Manufacturing
Electron Beam Welding
CNC-Machining
Engineering



Intelligence + quality for moulds and dies

Sophisticated temperature management by use of hardenable copper alloys

Competence:

Listemann Technology AG is a leading service-contractor in Europe in the field of joining technology, especially vacuum brazing. By means of a newly developed heat treatment process tool components can be joined consisting of high-strength copper alloys and a tool steel.

Customer benefit:

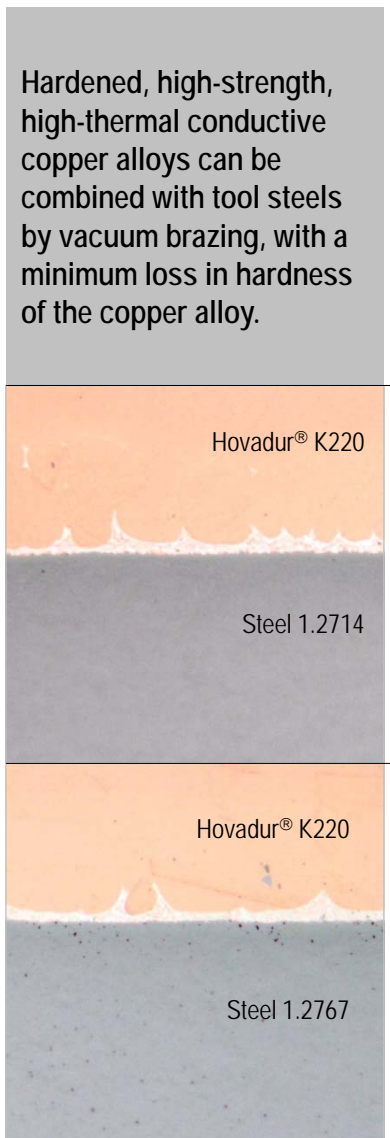
Application oriented use of materials where it has to be used. High-strength, hardenable copper alloys with maximum thermal conductivity are combined with wear resistant tool steels. Leak tight components with a heat resistant metallurgical joint realized by vacuum brazing.

Material combinations and Rockwell hardness (after joining process):

- K220 with 1.2714; 180-200 HB / 46-51 HRC
- K220 with 1.2767; 180-200 HB / ca. 45 HRC

Services:

- Brazing specific support during design phase
- vacuum brazing and hardening of the tool inserts
- consultation and training on site



Comparison pure copper with Hovadur®	Mechanical properties at 20°C			Physical properties at 20°C	
	Brinell hardness [HB]		Tensile Strength [MPa]	Thermal conductivity [W/m·K]	CTE [10 ⁻⁶ /K]
	as delivered	after brazing	as delivered		
Copper (ECu58)	45-70	weich	200-250	350-370	16,5
Hovadur® K220	220	180-200	650-800	190-240	16,2



Die Werkzeugmacher



Intelligence + quality for moulds and dies

LI-9487 Benden, Ober Au 38
Fon +423 375 90 10, Fax +423 375 90 20
info@iQtemp.com, www.iQtemp.com