

ZOLLERN

Solid metals. Fine solutions.

Sand Casting and Forging

Forming
technology

Mould making





End-to-end solutions. For the metalworking industry.

ZOLLERN offers individual component solutions using copper based materials for machines in the metalforming industry. From the melting of the raw material and casting or forging processes right through to the finished components with destructive or non-destructive testing, all stages of production take place within our plant.

ZOLLERN forged bronzes for the metalworking industry

- Spindle nut
- Bearing bushes
- Pressure bearing, pressure ring, pressure punch
- Guide rails, guide rollers

Custom design

- High-strength copper aluminium alloys forged, rolled
- Copper alloys, centrifuge or sand cast
- Mechanically premachined or finished machined
- Quality tested, with test report

Highest component quality

- Excellent sliding behaviour
- High degree of wear resistance
- Excellent endurance limits

Modern processes. 300 years of experience.



Open-die forging, hydraulic forging press



Centrifugal casting



Open-die forging, pneumatic hammer



Ring rolling mill



Maximum precision. For mould making.

ZOLLERN forged bronzes VB, EBz, SMBh and NSB4 are used in mould making for cores and tool inserts. As well as being easily machinable, heat dissipation is a significant advantage of copper based alloys. Cycle times are much shorter than for steel moulds. At critical positions such as nodes and sectional transitions, using copper alloy tool inserts can achieve faster dimensional stability and minimise wastage. Copper alloys have a relatively high degree of hardness and are very resistant to wear resulting in excellent operational life. ZOLLERN uses only beryllium-free copper alloys.

ZOLLERN forged bronzes for mould making

- Significantly higher thermal conductivity in comparison to steel. Shorter cycle times with improved dimensional accuracy.
- Even mould temperatures
- No hotspots, excellent operational life
- Very good sliding properties, slides can be easily combined with steel
- High degree of wear resistance

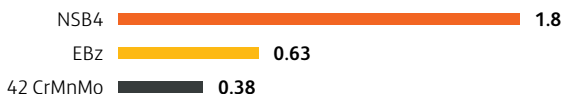
ZOLLERN forged bronzes

Technical Data

Tensile strength Rm N/mm²



Thermal conductivity in W/cm °C



// Material properties

Material	Standard	Yield strength	Tensile strength	Elongation	Brinell hardness	Thermal conductivity	Coefficient of thermal expansion	Welding
		Rp0.2 N/mm ²	Rm (N/mm ²)	A5 %	HB 10	W/cm °C	10-6/°C	
VB	CW308G	500	800	4	215	0.38	15	Very good
	CuAl11 Ni6Fe5							
EBh	CW308G	410	740	4	200	0.63	16	Very good
	CuAl11 Ni6Fe5							
EBz	CW307G	360	720	12	175	0.63	16	Very good
	CuAl10 Ni5Fe4							
EBw	CW304G	180	490	20	125	0.5	16	Very good
	CuAl9 Ni3Fe2							
SMBh	2.0960	200	570	14	130	0.88	15	Very good
	CuAl9 Mn2							
TZB 28/ 32/ 36	CuAl14	500- 700	500-900	0.5-2	260-300	-	16	Very good
					300-340			
					340-380			
BZ2	CW713R	180	470	10	125	0.63	19	-
	CuZn40Al2							
NSB4	CW112C	540	690	8	180	1.8	16	-

The mechanical values given are minimum values for forged pieces up to 80 mm in thickness, the physical values are guideline values. Casting materials on request.



ZOLLERN

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