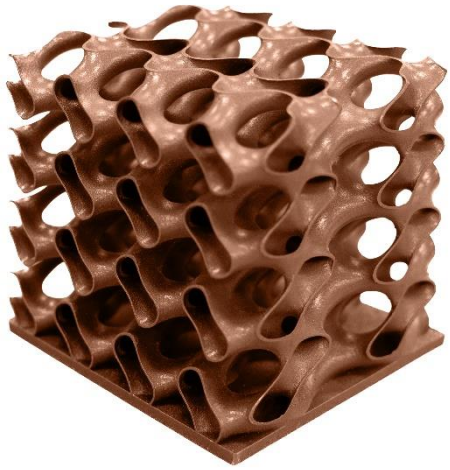
Pure-Copper

Material datasheet Pure-Copper

general properties

properties	unit	value
density laser-melted	g/cm³	8,9
roughness after sandblasting (Ra/Rz)	µm	8 – 9 / 40 – 50
Precision	mm	+/- 0,7 %, min. 0,1 mm
minimal wall thickness	mm	0,6
wall thickness for media-tight components	mm	min. 1 mm
leak test	bar	6 bar compressed air

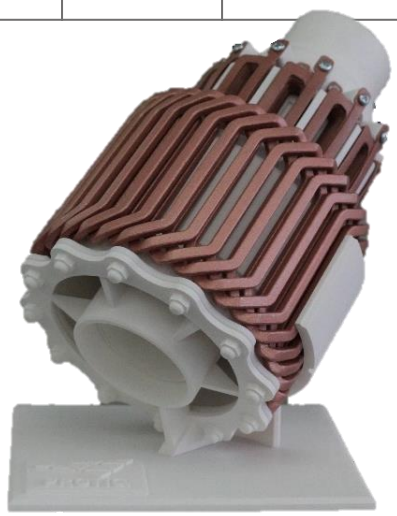


mechanical properties

properties	state	unit	value
tensile strength	„as built“	MPa	220 ± 10
yield strength (Rp 0,2%)	„as built“	MPa	140 ± 20
elongation at break	„as built“	%	50 ± 10

electrical properties

properties	unit	value
electrical conductivity (edge/core)	MS/m	57



Dear PROTIQ customer, all information given is based on our knowledge and experience at the time of publication. In addition, the material properties can be influenced by component geometry, environmental influences and material additives. The stated material or component properties, as well as their suitability for specific applications, are neither agreed nor guaranteed, despite regular quality controls. The customer is responsible for checking the component properties and suitability for a specific application.

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thermal properties

properties	unit	value
thermal conductivity	W/(m*K)	415 ± 10

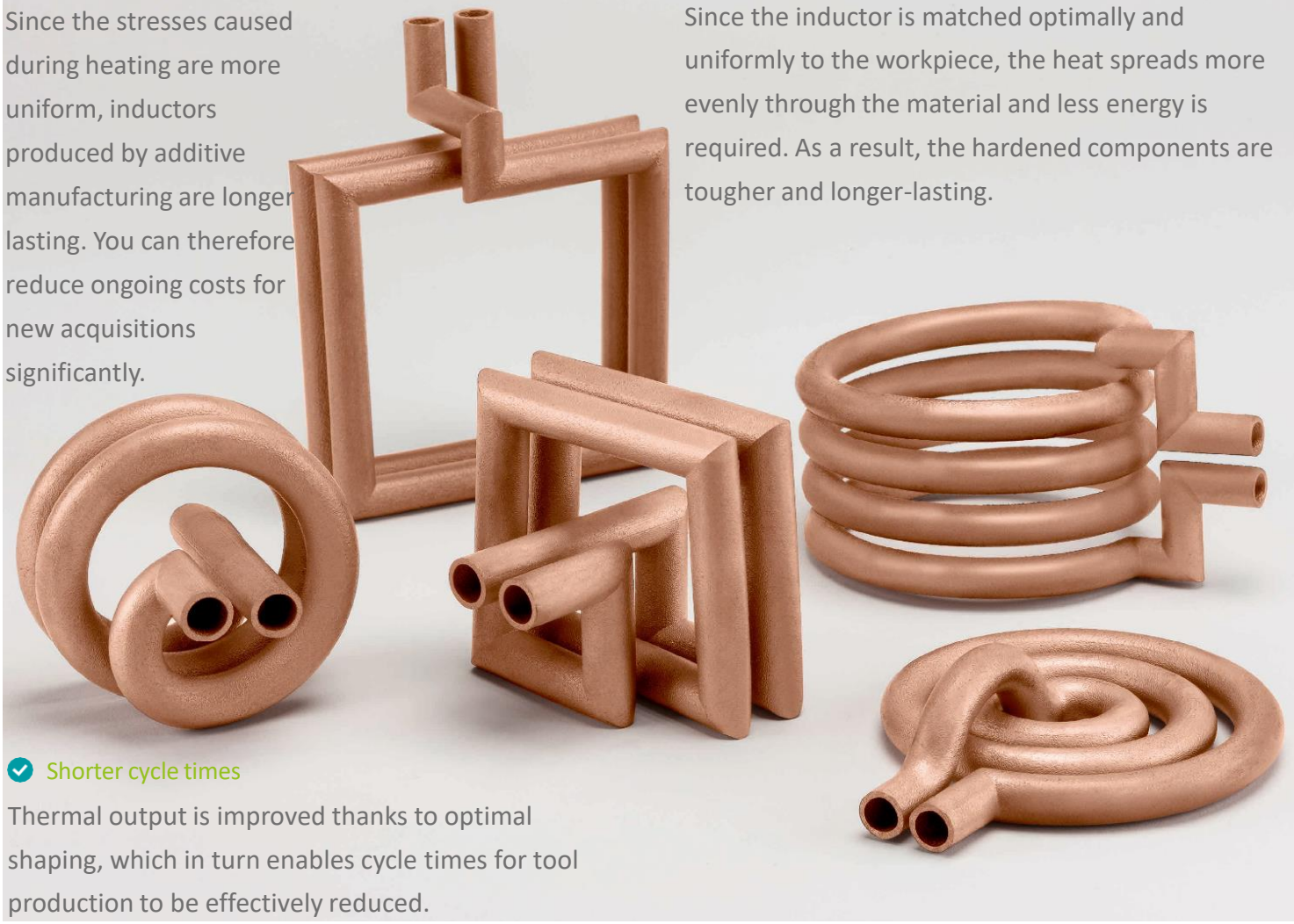
Pure-Copper inductors:

Longer service life

Since the stresses caused during heating are more uniform, inductors produced by additive manufacturing are longer lasting. You can therefore reduce ongoing costs for new acquisitions significantly.

Better control of the induction process

Since the inductor is matched optimally and uniformly to the workpiece, the heat spreads more evenly through the material and less energy is required. As a result, the hardened components are tougher and longer-lasting.



Shorter cycle times

Thermal output is improved thanks to optimal shaping, which in turn enables cycle times for tool production to be effectively reduced.