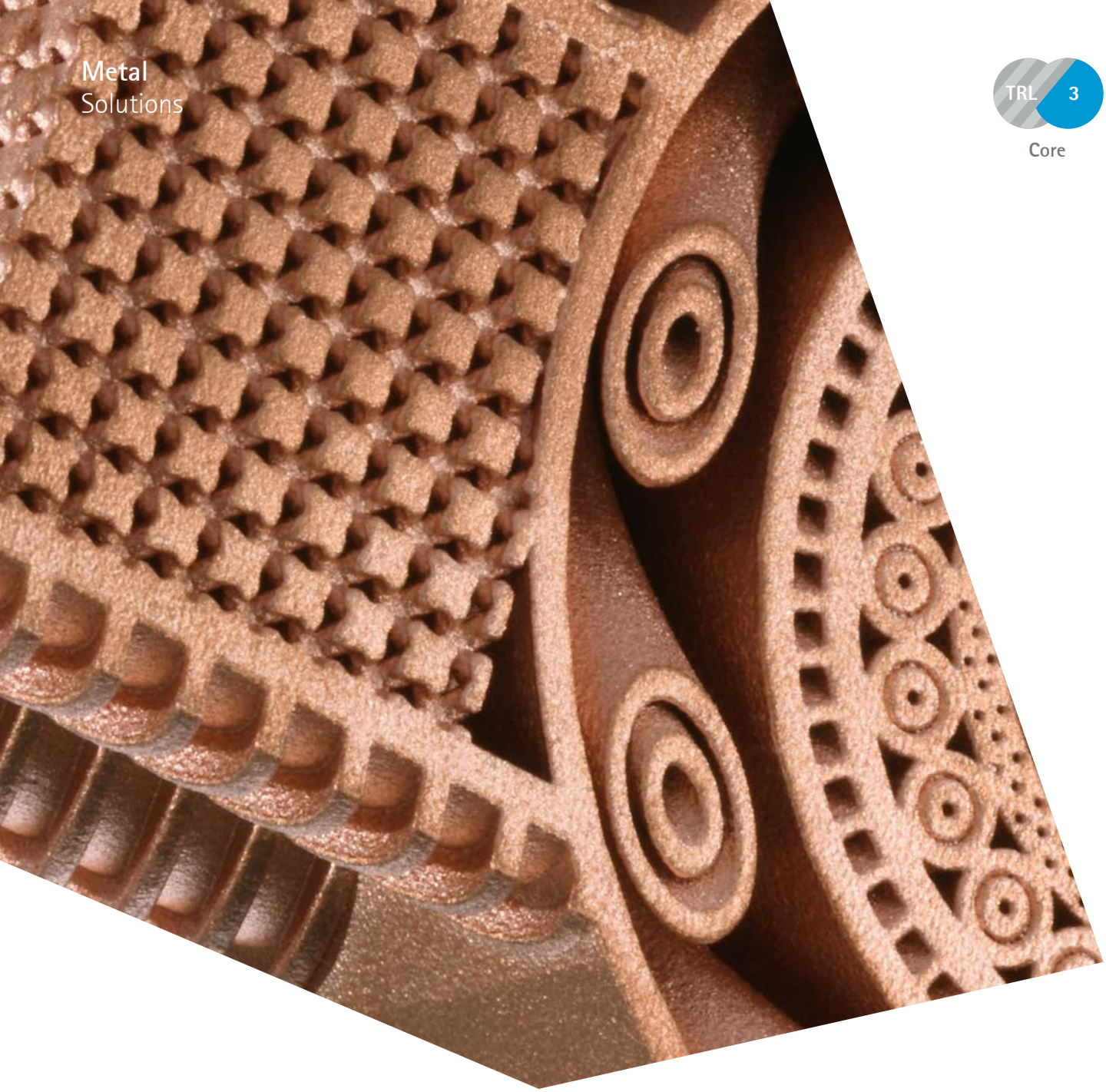
Metal
Solutions



TRL 3
Core

EOS Copper Cu
for EOS M 290

EOS Copper Cu
EOS M 290 | 20 µm

High purity copper for EOS M 290 platform to reach good electrical and thermal conductivity. Suitable for a wide variety of applications.

Main Characteristics

- → High purity copper
- → Good electrical and heat conductivity
- → Process developed to achieve best possible conductivity using the EOS M 290

Typical Applications

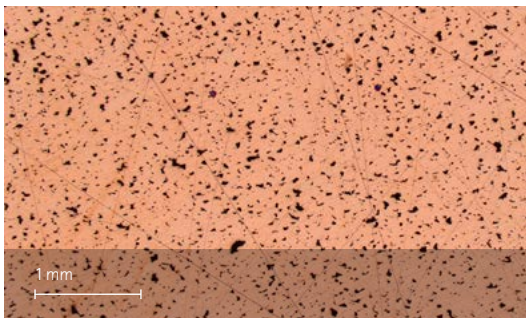
- → Heat exchangers
- → Electronics
- → Variety of industry applications requiring good conductivity

Product Information

Current TRL	3
DMLS System	EOS M 290
Material	EOS Copper Cu
Process	Cu_020_CoreM291_100

Layer thickness 20 µm

Volume rate 1.7 mm^3/s Porosity < 5 %*



* depending on job load and part geometry

Typical part properties	Yield strength $Rp_{0.2}$ [MPa]	Tensile strength Rm [MPa]	Elongation at break A [%]
Mechanical properties as manufactured	180	200	5
Mechanical properties heat treated	140	190	20
Conductivity as manufactured	> 80 % IACS (tested acc. ASTM E1004-17)		
Conductivity heat treated	> 90 % IACS (tested acc. ASTM E1004-17)		

Copper can be heat treated to reach different mechanical properties and conductivity values. Properties in the table have been achieved with following heat-treatment:
Hold 1 h at ~ 1,000 °C in argon atmosphere, slow cooling with argon

Copper and its alloys have high conductivity; hence high power is required for processing. The achieved density, which influences the mechanical properties, is typical for a 400 W laser. Please refer to the application notes for EOS Copper products for further information.

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