

CuCrZr

Metal | SLM

Copper alloy that conducts like copper and holds strength when hot.

When pure copper is too soft, CuCrZr keeps most of the conductivity and more than doubles the strength (about 500 MPa tensile). It stays stable at elevated temperature, which is why it is used for combustion chambers and high-heat-flux cooling. Pickling and passivation are included.

Mechanical properties

Density	8.89 g/cm ³
Hardness	160 HV
Surface roughness Ra	12.5 µm
Yield strength	420 MPa
Elastic modulus	120 GPa
Relative density	≥99.0%
Tensile strength	500 MPa
Elongation at break	18%

Typical applications

- Rocket-engine liners
- High-heat-flux coolers
- Cooling channels
- Welding and induction tooling
- Heat exchangers
- Thermal-management parts

Maximum part size

400 × 200 × 260mm (larger parts can be split and joined)

Available finishes

CNC-machined surfaces · E-coated · Electroplated · Polished · Powder coated · Sandblasted · Spray painted, gloss · Spray painted, matte · Tapped threads · Tumbled

Values are indicative and depend on part geometry, build orientation and post-processing. For project-specific requirements contact info@3dexperts.me. Instant price: 3dexperts.me/quote