

eco GS1

CuSn4Zn2PS-C-GC | leadfree red brass

Material designation

EN CuSn4Zn2PS-C-GC
CC470K

UNS not standardized

Chemical composition*

Cu balance

Sn 4 %

Zn 2 %

S 0,4 %

P ≤ 0,10 %

Pb ≤ 0,10 %

*Reference values in % by weight

Physical properties*

Electrical conductivity MS/m 11.6
%IACS 20

Thermal conductivity W/(m·K) approx.
80–90

Thermal expansion coefficient (0–300 °C) 10⁻⁶/K ~17

Density g/cm³ 8.98

Moduls of elasticity GPa 116

*Reference values at room temperature

Corrosion resistance

Cast alloys belong to the most corrosion-resistant copper alloys. They exhibit excellent resistance to atmospheric influences, carbonic acid and saline water.

Eco GS1 is resistant to dezincification (according to ISO test 6509) and insensitive to Stress corrosion cracking.

Product standards

DIN EN 1982

Material properties and typical applications

eco GS1 is a copper-tin-zinc casting alloy. It is a lead-free alternative to the proven material CC499K. The material is mainly used in the mounting parts industry and as fittings and pipe connectors. **eco GS1** can be used as a medium-hard structural material. The addition of phosphorus and sulphur results in good machinability, thus replacing lead in traditional machining materials.

The material is accepted for products in contact with drinking water as per 4 MS positive list.

The material is lead-free according to RoHS and ELV.

Types of delivery

The BU Extruded Products supplies bars, wire, sections and tubes. Please get in touch with your contact person regarding the available delivery forms, dimensions and tempers.

Fabrication properties

Forming

Machinability 70 %
(CuZn39Pb3 = 100 %)

Capacity for being cold worked poor

Capacity for being hot worked poor

Heat treatment

Melting range 900–1,046 °C

Thermal stress relieving 250–400 °C
2–4 h

Mechanical properties, reference values

	Tensile strength R _m MPa	Yield strength R _{p0.2} MPa	Elongation A %	Hardness HBW
Continuous casting	250	110	13	65

Product information

Attention is drawn to the property right DE202016101661U1 and the property rights belonging to the patent family. The treatment / processing of the delivered goods made of CuSn4Zn2SP (Wieland GS1) into media-carrying components requires a licence from the patent holder. The owners signal that they are willing to grant a license.

Further information can be found in DIN SPEC 2701: 2018-12 /DIN EN 1982.

Trademarks

wieland ecoline