



# CuSn5P

Phosphorescent Tin Bronze

Brand Name

**KUPTIN P5**

Standardization:

**EN ISO 5182 / CW450K / C51000**

## ALLOY DESCRIPTION

CuSn5P is a tin-phosphor bronze with balanced electrical conductivity and mechanical properties, produced by phosphorus deoxidation process. Phosphorus additive increases the wear resistance and fluidity of the alloy and also supports welding and soldering ability. It is a reliable engineering alloy preferred in applications requiring flexibility and strength such as spring elements, switch contacts, connectors and precision mechanical parts.

## CHEMICAL COMPOSITION (% WEIGHT)

Cu (%)	Sn (%)	P (%)	Pb (%)	Zn (%)	Fe (%)
Remainder	4.0-6.0	0.01-0.40	max. 0.05	max. 0.30	max. 0.10

## MECHANICAL PROPERTIES

Tensile Strength ( $R_m$ )	<b>390 - 450 [N/mm<sup>2</sup>]</b>
Yield Strength ( $R_{p0.2}$ )	<b>260 - 280 [N/mm<sup>2</sup>]</b>
Elongation ( $A_5$ )	<b>min. 10 [%]</b>
Hardness (HBW)	<b>120 - 160 [HB]</b>

## PHYSICAL PROPERTIES

Density	<b>8.80 [kg/dm<sup>3</sup>]</b>
Melting Temperature	<b>985 - 1060 [°C]</b>
Elk. Conductivity	<b>10 - 13 [MS/m]</b>
Elasticity Modulus	<b>110 [kN/mm<sup>2</sup>]</b>

## CASTING METHODS

GS	<b>sand casting</b>
GM	<b>Permanent mold casting</b>
GZ	<b>Centrifugal casting</b>
GC	<b>continuous casting</b>

## AREAS OF APPLICATION

Spring Elements

Switches and Electrical Contacts

Connector and Terminal

Precision Mechanical Parts

Membrane and Diaphragm

## MACHINABILITY & CHARACTERISTICS

The addition of phosphorus reduces the fluidity of the alloy and the formation of pores in the casting; In this way, a clean and dense microstructure is obtained. It is suitable for cold forming, spring making and deep drawing processes. With good welding and soldering ability, it can be easily processed in electronic and electrical manufacturing processes. It is widely used in the automotive, electronics, energy and precision mechanics industries.

The technical information specified in this document reflects the standard reference values of international EN and DIN norms. Deviations may be observed depending on final production conditions.

**CORUM BRONZE**

E-mail : [info@corumbronz.com](mailto:info@corumbronz.com) | Web : [www.corumbronz.com](http://www.corumbronz.com)