



CuSn6P

Phosphorescent Tin Bronze

Brand Name

KUPTİN P6

Standardization:

EN ISO 5182 / CW451K / C51900

ALLOY DESCRIPTION

CuSn6P is a medium-high performance phosphor bronze that offers higher mechanical strength and wear resistance compared to KUPTİN P5 with its 6% tin content. Phosphorus deoxidation process improves the microstructure and increases fatigue strength. Provides long-lasting performance under repetitive loading in spring and connector applications. It is preferred to CuSn5P in designs requiring stronger spring restoring force.

CHEMICAL COMPOSITION (% WEIGHT)

Cu (%)	Sn (%)	P (%)	Pb (%)	Zn (%)	Fe (%)
Remainder	5.5-7.0	0.01-0.40	max. 0.05	max. 0.30	max. 0.10

MECHANICAL PROPERTIES

Tensile Strength (R_m)	390 - 450 [N/mm²]
Yield Strength ($R_{p0.2}$)	260 - 280 [N/mm²]
Elongation (A_5)	min. 8 [%]
Hardness (HBW)	120 - 160 [HB]

PHYSICAL PROPERTIES

Density	8.80 [kg/dm³]
Melting Temperature	975 - 1050 [°C]
Elk. Conductivity	9 - 12 [MS/m]
Elasticity Modulus	110 [kN/mm²]

CASTING METHODS

GS	sand casting
GM	Permanent mold casting
GZ	Centrifugal casting
GC	continuous casting

AREAS OF APPLICATION

High Strength Spring Elements

Electrical Connectors

Switch Mechanisms

Printed Circuit Components

Precision Device Parts

MACHINABILITY & CHARACTERISTICS

Compared to P5, the increased tin content significantly increases the fatigue strength and hardness of the alloy. It is suitable for cold rolling, wire drawing and deep drawing processes. Thanks to its good welding and soldering ability, it is easily processed in electronic component production. It is the reliable choice in critical connector and spring applications that require repetitive loading, vibration and flexibility.

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

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