



CuSn12Ni-C

Tin-Nickel Bronze Alloy (GBz 12 Ni)

Brand Name

KUPTİN NI

Standardization:

DIN EN 1982 / CC484K / C90800

ALLOY DESCRIPTION

GBz 12 Ni is a special material belonging to the group of Tin-Bronze alloys, characterized by the addition of nickel and reduced lead content. Thanks to its nickel additive, it provides excellent wear resistance, especially in parts exposed to friction such as worm screw (Worm Screw / Gear) gears, and prevents the formation of pitting on the surface. It is a top segment engineering bronze that can withstand high surface pressures under continuous operating conditions.

CHEMICAL COMPOSITION (% WEIGHT)

Cu (%)	Sn (%)	Ni (%)	P (%)	Pb (%)	Zn (%)
84.5-87.5	11.0-13.0	1.5-2.5	0.05-0.4	max. 0.3	max. 0.4

MECHANICAL PROPERTIES (MIN.)

Tensile Strength (R_m)	280 - 300 [N/mm ²]
Yield Strength ($R_{p0.2}$)	160 - 180 [N/mm ²]
Elongation (A_5)	min. 8 - 12 [%]
Hardness (HBW)	min. 85 - 95 [HB]

PHYSICAL PROPERTIES

Density	8.60 [kg/dm ³]
Melting Temperature	830 - 1010 [°C]
Elk. Conductivity	5 - 7 [MS/m]
Elasticity Modulus	90 - 110 [kN/mm ²]

CASTING METHODS

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

AREAS OF APPLICATION

High Speed Worm Gears

Bushings Under Heavy Load

Ship Propellers

Wear Resistant Plates

Sea Water Fixtures

MACHINABILITY & CHARACTERISTICS

Thanks to the addition of nickel, it offers higher toughness and corrosion resistance compared to classical CuSn12. It is characterized by a low coefficient of friction and excellent fatigue strength. It is especially ideal for bearings and bushings with high sliding speeds.

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 | Web : www.corumbronz.com