

Material Designation

GB	HMn60-3-1.7-1
UNS	C67300
EN	/
JIS	/

Chemical Composition

Copper, Cu	58.0 – 63.0%
Sulphur, Mn	2.0 – 3.5%
Silicon, Si	0.5 – 1.5%
Plumbum, Pb	0.4 – 3.0%
Zinc, Zn	Rem.

Physical Properties

Density	8.20 g/cm ³
Electrical Conductivity	Min. 13 %IACS
Thermal Conductivity	63 W/(m·K)
Melting Point	886 °C
Thermal Expansivity	20.4 10 ⁻⁶ / K
Modulus of Elasticity	110 Gpa

Mechanical Properties

Specification mm (up to)	Temper	Tensile Strength Min. MPa	Yield Strength Min. MPa	Elongation Min. A%	Hardness Min. HRB
φ 5-15	HR50	485	345	15	≥ 120
φ 15-50	HR50	440	320	15	≥ 120
φ 50-120	M30	380	172	20	≥ 120

Advantage

1. We actively respond to any questions from customers and provide shorter delivery times. If customers have urgent needs, we will fully cooperate.
2. We focus on controlling the production process so that the performance of each batch is as consistent as possible and the product quality is excellent.
3. We cooperate with the best domestic freight forwarders to provide customers with sea, rail and air transportation and combined transportation solutions, and have plans for transportation difficulties caused by natural disasters, epidemics, wars and other factors.

Characteristics

CAMK67300 is a copper-zinc-manganese-silicon-lead copper-based multi-element ($\alpha+\beta$) two-element alloy, which is a copper alloy with high strength and high wear resistance. The addition of silicon and manganese improves the strength and wear resistance of the alloy, and the addition of lead enhances its wear resistance and machinability. It has mechanical properties, casting properties, cutting properties and low cost, and has become one of the main manufacturing materials for propellers.

In polluted seawater, manganese brass will undergo de-Zn corrosion, and its resistance to cavitation corrosion is also poor, resulting in manganese brass propellers prone to corrosion fatigue fracture. The copper-zirconium binary phase diagram shows that when zirconium is added to manganese brass, the strengthening phase of Cu₅Zr or Cu₃Zr will be precipitated first, which will serve as the subsequent nucleation particles and play a role in fine-grain strengthening.

Application

In addition to being used to manufacture propellers, CAMK67300 can also be used to manufacture automobile synchronizer gear rings, bearing sleeves, gears, condensers, gate valves, etc.

