



H56

Description

H56 is a commonly used brass alloy, named for its copper content of approximately 56%. It is an informal designation within the industry for brass with this specific composition and does not correspond to a unified international standard designation. Its properties and applications fall between those of low-copper and medium-copper brasses. Its main components are copper (55%–57%) and zinc (42%–44%), with possible trace amounts of lead, iron, and other impurities (total impurity content typically $\leq 0.5\%$). Lead improves machinability, while iron slightly enhances heat resistance.

Features

Strength and hardness: Moderate to high—higher than high-copper brasses such as H68, making it suitable for applications involving moderate loads. **Cold workability:** Suitable for cold rolling, cold drawing, cold heading, bending, and stamping, allowing for complex forming. **Machinability:** Excellent—easy to machine with good chip breaking and smooth surface finish; ideal for high-volume turning, milling, drilling, and tapping. **Brazing and copper welding:** Good performance; arc welding and gas welding are moderate, with a tendency for zinc evaporation and porosity. **Good corrosion resistance** in atmospheric, freshwater, and neutral environments, with a protective oxide film readily forming on the surface. **Not resistant to acids**—susceptible to corrosion in acidic conditions. **Non-magnetic**, making it suitable for applications sensitive to magnetic interference.





Parameters

H56's Chemical Composition

H56 composition:

Elements	Copper (Cu)	Zinc (Zn)	Lead (Pb)	Iron (Fe)
H56	55%-57%	42%-44%	≤0.3%	≤0.1%

H56's Mechanical Properties:

Tensile Strength	Yield strength	Elongation at break (δ_{10})	Hardness (HB)
400-480 MPa	350-400 MPa	5%-15%	100-130

H56's Other Physical Properties

Density: 8.4-8.5g/cm³

Melting point: 900-940°C

Thermal conductivity: 120-150W/(m·K)

Electrical conductivity :15%-20% IACS (International Annealed Copper Standard)

Coefficient of linear expansion: 18-20×10⁻⁶/°C (20-100°C)

Elastic modulus: 90-95 GPa

