

Material Information



Bronze C220

Introduction

Bronze C220, also known as C22000 Commercial Bronze, is a copper-zinc alloy containing approximately 90% copper and 10% zinc. It is known for its excellent formability, ductility, corrosion resistance, and attractive bronze color. It is a practical material for sheet metal fabrication where ease of forming, reliable performance, and decorative appearance are important.

Advantages

Excellent formability, good corrosion resistance, good electrical conductivity, and good ductility. Bronze C220 can undergo various sheet metal fabrication processes, including bending, stamping, punching, shearing, and drawing. Its attractive appearance and resistance to outdoor exposure also make it suitable for decorative components and architectural hardware.

Disadvantages

Bronze C220 has moderate mechanical strength compared with many structural steels and high-strength copper alloys. Its density is also relatively high compared with lightweight metals such as aluminum, which may be a consideration for weight-sensitive applications. Although it offers good electrical conductivity, it is less conductive than pure copper, making material selection important for applications with demanding electrical requirements.

Tolerance

We offer tolerances as tight as $\pm 0.005"$. Tighter tolerances are available upon manual review.

Recommendation

The combination of excellent formability, corrosion resistance, ductility, electrical conductivity, and attractive appearance makes Bronze C220 suitable for sheet metal components, decorative panels, architectural hardware, electrical parts, and custom-formed enclosures. It is particularly appropriate for applications requiring intricate shapes, a durable metallic finish, and a balance of functional performance and visual appeal.

Material Specifications (For reference only.)	
Tensile strength	55.2 to 117MPa
Hardness	92 HB
Density	8.8 g/cm ³
Elongation at break	49%

Attention

Bronze C220 can be readily formed using conventional sheet metal fabrication processes, but the appropriate bending radius and forming parameters should be selected according to the sheet thickness and material temper. Severe or repeated forming can cause work hardening, potentially increasing the risk of cracking during subsequent operations. Suitable tooling and controlled forming conditions are recommended to maintain dimensional accuracy and surface quality. Surface protection and finishing requirements should also be considered for components exposed to demanding environments.

Applications

3DSPRO finds people using Bronze C220 to make functional and decorative sheet metal components in the following industries and applications.

Architecture and construction:

Decorative panels, architectural trim, building hardware, ornamental grilles, and other components requiring corrosion resistance and an attractive metallic appearance.

Electrical and electronic equipment:

Conductive strips, electrical connectors, contact components, shielding parts, and other fabricated components requiring a combination of formability and electrical conductivity.

Consumer products and decorative hardware:

Decorative covers, fittings, trim pieces, ornamental components, and custom sheet metal parts requiring a distinctive bronze color and good formability.

Industrial equipment:

Custom brackets, formed covers, mounting components, protective panels, and other sheet metal parts requiring corrosion resistance, ductility, and reliable fabrication performance.