

# UNS C70600 Copper Nickel Bar (90/10)

Smiths Advanced Metals

## Biofouling & Marine Corrosion Performance

We stock UNS C70600 copper nickel bars to ASTM B151, a specification establishing the requirements for copper-nickel-zinc alloy bars.

UNS C70600 is a 90% copper and 10% nickel alloy with tiny traces of further elements such as iron and manganese. Adding copper increases the material's overall strength, with the trace elements improving corrosion resistance. The result is an engineering alloy which offers outstanding corrosion resistance, particularly in marine/saltwater environments.

### Machinability & Weldability

UNS C70600 provides good strength and creep resistance while being easy to machine and weld with good cold and hot forming capabilities. The alloy is highly suitable for applications in the marine sector, including forged components. It represents an ideal alternative for operating environments where chloride stress corrosion cracking is problematic, as stainless steel is unsuitable.

### Benefits

- Excellent marine corrosion resistance
- Moderate strength
- Impressive biofouling resistance

#### \*Chemical Composition (weight %)

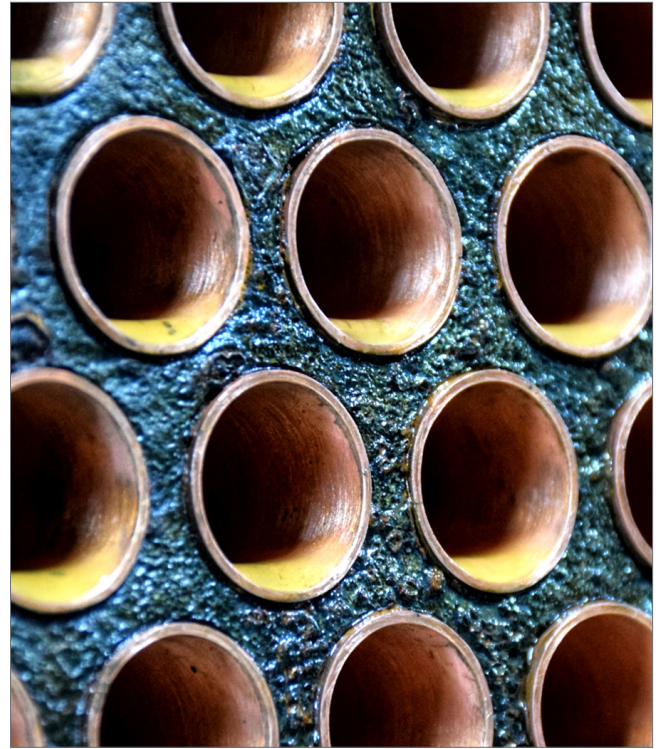
	Cu	Ni	Mn	Fe	Pb	Zn
min.	Bal	9.00		1.00		
max.	Bal	11.00	1.00	1.80	0.05	1.00

\* Properties as per ASTM B151

#### \*Physical & Mechanical Properties

Density	8.90 gm/cm <sup>3</sup> @ 20°C
Melting Point	1100 - 1145°C
Specific Heat Capacity	0.09 cal/g°C @ 20°C
Electrical Conductivity	5.8 microhm mm <sup>2</sup> or 10% IACS
Tensile Strength	260 MPa
0.5% Proof	105 MPa min
Elongation	30% min

\* Properties as per ASTM B151 (Temper O60)



### Key Applications

- Marine hardware and components
- Valve and pump components
- Heat exchangers

### Biofouling Performance

Typical resistance to biofouling and marine corrosion is excellent. Biofouling is a common issue in above-sea and subsea scenarios where contaminants such as algae, micro-organisms and even small animals can impair the performance of a component or structure.

The alloy's biofouling resistance also reduces the risk of pitting, although the material is susceptible to pitting in contaminated water containing hydrogen sulphide.

We stock UNS C70600 copper nickel bars to ASTM B151 and also process bars in-house to your specific size requirements. We provide global shipping services, supporting engineering companies worldwide.