

### Bronze Alloy

#### Typical Applications

- Aerospace landing gear
- Gears
- Worm Wheels
- Marine fasteners
- Thrust washers
- Springs
- Wear plates
- Safety tools (non sparking)

#### Product Description

C63000 is the most commonly used grade of nickel aluminium bronze in America. It was designed as an equivalent to the European nickel aluminium bronzes and has been developed to become an aerospace material under the AMS4640 specification. It combines high strength with toughness and has an excellent resistance to wear, shock and abrasion. Another major benefit of this alloy is its ability to offer a high retention of its mechanical properties at elevated temperatures.

#### Weldability

Good.

#### Related material specifications

- AMS4640
- CW307G
- CA104

#### Key features

- Retention of properties at cryogenic temperatures
- Excellent wear & abrasion resistance
- Good strength & toughness
- High corrosion resistance
- Excellent resistance to shock
- Spark resistance

#### Availability

Round bar, hexagon.

#### Cut to size capability

There are thirty power saws within the Smiths group including a fully automated magazine feed CNC rod blanking line. We can economically cut from one off blanks to the largest production run for immediate or just in time deliveries.

#### Corrosion Resistance

Excellent

#### Machinability

Good / fair.

#### Chemical Composition (weight %)

	Cu	Al	Ni	Fe	Mn	Si	Sn	Zn
min	Rem	9.00	4.00	2.00				
max	Rem	11.00	5.50	4.00	1.50	0.25	0.20	0.30

#### Mechanical Properties

	25mm and under	25-50mm incl.	50-80mm
Diameter			
UTS	760 N/mm <sup>2</sup>	760 N/mm <sup>2</sup>	725 N/mm <sup>2</sup>
0.2% Proof Strength	470 N/mm <sup>2</sup>	415 N/mm <sup>2</sup>	380 N/mm <sup>2</sup>
Elongation	10%	10%	10%
Hardness	Up to 50.8mm 201-248 HB	50.8mm to 127mm 187-241 HB	

#### Technical Assistance

Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

##### UK Service Centres:

Smiths Belfast **02895 908 897**  
 Smiths Biggleswade **01767 604 704**  
 Smiths Birmingham **0121 728 4940**  
 Smiths Bristol **0117 971 2800**  
 Smiths Chelmsford **01245 466 664**  
 Smiths Gateshead **0191 469 5428**  
 Smiths Horsham **01403 261 981**

Smiths Leeds **0113 307 5167**  
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 Smiths Norwich **01603 789 878**  
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##### Quality & Testing:



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