

Bronzes are Copper-based alloys with the major alloying element being Tin. They offer a combination of properties such as high strength, hardness, corrosion resistance and wear resistance.

Copper-Aluminium alloys are commonly known as Aluminium Bronzes. These alloys cover a range of Copper-based alloys in which the primary alloying element is up to 14% aluminium. The four major groups of Aluminium Bronze are:

- ~ Single phase alloys containing less than 8% Aluminium.
- ~ Two-phase (duplex) alloys containing 8 to 11% Aluminium. These alloys also frequently have additions of Iron and Nickel to increase strength. This group contains casting alloys AB1 and AB2, the wrought alloys CA105, CA104 and Defence Standard (formerly Naval Engineering Standard NES 747 when cast and the wrought form NES 833).
- ~ The low magnetic permeability Aluminium-Silicon alloys.
- ~ The Copper-Manganese-Aluminium alloys with good castability.

BSB23 is typically used in:

- ~ Valve and pump components
- ~ Marine equipment
- ~ Fasteners
- ~ Engine components
- ~ High temperature applications

CHEMICAL COMPOSITION

Element	% Present
Aluminium (Al)	10.00 - 11.00
Nickel (Ni)	4.90 max
Iron (Fe)	4.70 max
Manganese (Mn)	0.0 - 0.30
Copper (Cu)	Balance

ALLOY DESIGNATIONS

BSB23 / DTD197
BS2872
CA104
EN12163/5/7
CW307G
DIN 17665 / 17672 CuAl10Ni5Fe4

SUPPLIED FORMS

- Bar

GENERIC PHYSICAL PROPERTIES

Property	Value
Density	7.6 g/cm ³
Melting Point	1060-1075 °C
Thermal Conductivity	46 W/m.K
Electrical Resistivity	0.216 x10 ⁻⁶ Ω .m

MECHANICAL PROPERTIES

EN 12163:2011
Rod & Bar
10mm to 120mm Dia / AF

Property	Value
Proof Stress	320-600 MPa
Tensile Strength	700-850 MPa
Elongation A50 mm	12-25 %
Hardness Brinell	180-255 HB

CONTACT

Address:	Please make contact directly with your local service centre, which can be found via the Locations page of our web site
Web:	www.aalco.co.uk

REVISION HISTORY

Datasheet Updated	18 July 2019
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