

The AB2 / CC333G is the cast version of the 10/5/5 Aluminium Bronze and is usually compared to the NES833 type material when a wrought alternative is required. It is the most commonly used type of cast aluminium bronze, with the aluminium, nickel and iron contents enhancing the strength, toughness and corrosion resistance of the material.

Mainly used for its excellent resistance to cavitation, erosion and corrosion in seawater and many other aggressive and chloride containing environments. AB2 / CC333G also possesses a high wear and abrasion resistance, an ability to withstand shock loading and the retention of properties at cryogenic temperatures.

Related Specifications

BS1400: AB2	CC333G
ASTM B505: C95800	

Chemical Composition - BS1400: AB2

Copper	Rem	Zinc	0.50% max
Aluminium	8.8-10.0% max	Tin	0.10% max
Nickel	4.0-5.50% max	Lead	0.05% max
Iron	4.0-5.50% max	Silicon	0.10% max
Manganese	3.00% max	Total Imps	0.30% max

Minimum Mechanical Properties - BS1400: AB2 continuously cast

Tensile Strength	640 N/mm ²
0.2% Proof Stress	250 N/mm ²
Elongation	13 %

Key Features

- Excellent resistance to erosion & corrosion
- Good strength & toughness
- Resistance to shock loading
- Non-sparking
- Retention of properties at cryogenic temperatures
- High Wear Resistance

Typical Physical Properties

Density	7.64 gm/cm ³
Melting Point	1060°C
Thermal Conductivity	35.9W/m°C
Coeff. of Thermal Expansion 20-300°C	16.2 x 10 ⁻⁶
Electrical Conductivity 20°C	7.1% IACS

Fabrication Properties

Stress Relieving temperature	316°C
Hot working temperature	Not Recommended
Hot formability	Not Recommended
Cold Formability	Not Recommended
Machinability Rating	50%

Joining Methods

Soldering	Good
Brazing	Fair
MIG Welding	Good
TIG Welding	Good

Typical Applications:

The AB2 / CC333G material is generally used for its corrosion resistance in marine, offshore oil and gas and chemical environments. Used for applications such as propeller hubs, blades, propeller shafts valve fittings, worm wheels, pump rods, fasteners, heavy duty bearings, gear wheels, valve seats, non-sparking tools and pinions.

This technical information is given by Holme Dodsworth Metals without charge and the user shall employ such information at their own discretion and risk. For more detailed technical advice on temper selection, fabrication, joining, machining, physical and mechanical data please contact us as space does not permit the listing of every feature of the material.