

Product Information Sheet

ISSUE A

ALLOY G1

A. W. Fraser Alloy G1 is a gunmetal conforming to the requirements of B.S. 1400 - 1985 alloy G1.

G1 has good machining properties, medium hardness, good strength and good wear resistance. This material has good corrosion resistance, especially to seawater, making it suitable for marine applications requiring a higher strength material.

Bearings manufactured from G1 require good reliable lubrication and a hard shaft, and are suitable for medium to heavy loadings at low speed.

The composition of A. W. Fraser alloy G1 is strictly controlled as are the casting conditions. G1 products are manufactured using the latest continuous and centrifugal casting technology.

ALLOY G1 - GUNMETAL (88-10-2)

SUMMARY OF PROPERTIES

Chemical Composition - percent

Element		
Tin	Sn	9.5 - 10.5
Lead	Pb	1.5 maximum
Zinc	Zn	1.75 - 2.75
Nickel	Ni	1.0 maximum
Iron	Fe	0.15 maximum
Aluminium	Al	0.01 maximum
Phosphorus	P	0.1 maximum
Antimony	Sb	0.1 maximum
Copper	Cu	Balance

Mechanical Properties [Typical]

Yield Strength

Ultimate Tensile Strength

Elongation

Typical Hardness

Compressive Strength 0.1% Permanent Set

Specific Gravity

Machinability Rating (Free Machining Brass=100)

Max. Operating Temperature

Stress Relieving Temperature

Time at Temperature

Continuous Cast

140 MPa (20,000 psi)

280 MPa (40,500 psi)

9%

100 BHN

275 MPa

8.75

30

230°C (446°F)

260°C (500°F)

1 hour per 25mm of section thickness

Centrifugal Cast

130 MPa (18,500 psi)

250 MPa (36,000 psi)

5%

80 BHN

Comparative Specifications

BS1400 - G1; AS1567 - C92610; ASTM B505, B271 - C90500*; SAE 62*;

JIS (Japan) H5121 - CAC403C (BC3)*; DIN 1705 - G2-CuSn10Zn*; ISO 1338 - CuSn10Zn2

(Note: * = similar, but not identical)