

Product Information Sheet

ISSUE A

ALLOY 938

A. W. Fraser Alloy 938 is a high leaded tin bronze bearing and bushing material conforming to the requirements of UNS C93800.

Alloy 938 is most suitable in applications where shaft alignment or shaft wear is a problem. The high lead content of this alloy gives it the ability to tolerate interrupted lubrication. The lead also allows dirt particles to become embedded harmlessly in the bearing's surface.

Alloy 938 has good corrosion resistance.

The composition of A. W. Fraser alloy 938 is strictly controlled as are the casting conditions to ensure even distribution of the lead throughout the casting.

ALLOY 938 - HIGH LEAD TIN BRONZE

SUMMARY OF PROPERTIES

Chemical Composition - percent

Element		Nominal	
Copper	Cu	75.0 - 79.0	Remainder
Tin	Sn	6.3 - 7.5	7.0
Lead	Pb	13.0 - 16.0	14.0
Zinc	Zn	0.8 maximum	< 0.4
Nickel	Ni	1.0 maximum	
Iron	Fe	0.15 maximum	
Antimony	Sb	0.80 maximum	
Aluminium	Al	0.005 maximum	

Mechanical Properties [Typical]

Yield Strength (minimum)	
Tensile Strength (minimum)	
Elongation (minimum) 5%	
Typical Hardness	
Specific Gravity	
Machinability Rating (Free Machining Brass=100)	

Continuous Cast

	110 MPa (16,000 psi)
	172 MPa (25,000 psi)
	55 BHN
	9.25
	80
Compressive Strength 0.1% Permanent Set	83 MPa (12,000 psi)
Max. Operating Temperature	230°C (446°F)
Stress Relieving Temperature	260°C (500°F)
Time at Temperature	1 hour per 25mm of section thickness

Comparative Specifications

ASTM B505 - C93800; SAE 67; BS1400 - LB1*; DIN 1716 - G-CuPb15Sn*

* Similar but not identical