Product Information Sheet

ISSUE A

ALLOY AB1

A. W. Fraser Alloy AB1 is an aluminium bronze conforming to the requirements of BS 1400.

Alloy AB1 has good strength and wear resistance with reasonable machining properties. These physical properties remain good at elevated temperatures. General corrosion resistance is good but under some circumstances may suffer dealuminification.

The composition of A. W. Fraser alloy AB1 is strictly controlled as are the casting conditions. Alloy AB1 products are manufactured using the latest continuous and centrifugal casting technology.

ALLOY AB1 - ALUMINIUM BRONZE SUMMARY OF PROPERTIES

Chemical Composition - percent

Element			Nominal
Aluminium	Al	8.5 - 10.5	9.5
Iron	Fe	1.5 – 3.5	2.5
Nickel	Ni	1.0 maximum	0.2 maximum
Manganese	Mn	1.0 maximum	0.1 maximum
Lead	Pb	0.03 maximum	
Tin	Sn	0.1 maximum	
Zinc	Zn	0.50 maximum	
Copper	Cu	Balance	
Total Impurities		0.3 maximum	

Mechanical Properties	Continuous Cast	Centrifugal Cast
Proof Stress (minimum)	180 MPa	200 MPa
Ultimate Tensile Strength (minimum)	470 MPa	560 MPa
Elongation	20 % min.	20 % min.
Hardness (Typical)	130 BHN	130 BHN
Shear Strength (Typical)	276 MPa	
Compressive Strength 0.1% Permanent Set (Typical)		
Specific Gravity	7.6	
Machinability Rating (Free Machining Brass=100)	20	
Max. Operating Temperature	260^{O}C (500^{O}F)	
Stress Relieving Temperature	315^{O}C (600^{O}F)	
Time at Temperature	1 hour per 25mm of section thickness	

Comparative Specifications

AS1565 - 95210*; ASTM B505, B271 - C95200*; BS EN 1982:1999 CuAl10Fe2*;
JIS 5121 – CAC701C (AlBC1C)*
*Similar but not identical