Product Information Sheet

ISSUE A

ALLOY SAE 430 B

A. W. Fraser Alloy SAE 430 B is a high strength manganese bronze or high tensile brass conforming to the requirements of UNS C86300.

Alloy 430 B has exceptional strength, good wearing properties and good ductility, but has poor machinability. It is suitable for extra heavy duty slow speed bearings with good lubrication and for hydraulic cylinder components.

Alloy 430 B has reasonable corrosion resistance but may be susceptible to dezincification under certain conditions.

The composition of A. W. Fraser alloy 430 B is strictly controlled as are the casting conditions and products are manufactured using the latest continuous and centrifugal casting technology.

ALLOY SAE 439 B - MANGANESE BRONZE SUMMARY OF PROPERTIES

Chemical Composition - percent

Element			Nominal
Copper	Cu	60.0 - 66.0	63.0
Aluminium	Al	5.0 - 7.5	5.6
Iron	Fe	2.0 - 4.0	2.6
Manganese	Mn	2.5 - 5.0	3.3
Nickel	Ni	1.0 maximum	
Tin	Sn	0.2 maximum	
Lead	Pb	0.2 maximum	
Zinc	Zn	Balance	

Mechanical Properties [Typical]	Continuous Cast	Centrifugal Cast
Yield Strength	450 MPa (65,000 psi)	420 MPa (60,500 psi)
Ultimate Tensile Strength	800 MPa (116,000 psi)	770 MPa (112,000 psi)
Elongation	14%	12%
Typical Hardness	210 BHN (3000kg)	190 BHN (3000kg)
Compressive Strength 0.1% Permanent Set	490 MPa (71,000 psi)	
Specific Gravity	7.9	
Machinability Rating (Free Machining Brass=100)	8	
Max. Operating Temperature	260^{O}C (500^{O}F)	
Stress Relieving Temperature	260^{O}C (500^{O}F)	
Time at Temperature	1 hour per 25mm of section thickness	

Comparative Specifications

ASTM B505, B271 - C86300; AS1565 C86300; JIS H5102 - HBsC4*; BS1400 - HTB3*

* Similar but not identical