

# Product Information Sheet

ISSUE A

## ALLOY 862

A. W. Fraser Alloy 862 is a high strength manganese bronze or high tensile brass conforming to the requirements of UNS C86200.

Alloy 862 has high strength, good wearing properties and good ductility, but has poor machinability. Typical uses are for heavy duty slow speed bearings with good lubrication and for hydraulic cylinder components.

Alloy 862 has reasonable corrosion resistance but may be susceptible to dezincification under certain conditions.

The composition of A. W. Fraser alloy 862 is strictly controlled as are the casting conditions. Alloy 862 products are manufactured using the latest continuous and centrifugal casting technology.

### ALLOY 862 - MANGANESE BRONZE

### SUMMARY OF PROPERTIES

#### Chemical Composition - percent

Element			Nominal
Copper	Cu	60.0 - 66.0	63.0
Aluminium	Al	3.0 - 4.9	4.5
Iron	Fe	2.0 - 4.0	2.5
Manganese	Mn	2.5 - 5.0	3.5
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	310 MPa (45,000 psi)	310 MPa (45,000 psi)
Ultimate Tensile Strength	620 MPa (90,000 psi)	620 MPa (90,000 psi)
Elongation	18%	18%
Typical Hardness	180 BHN	180 BHN
Compressive Strength( 0.001set/in)	345 MPa (50,000 psi)	
Specific Gravity	8.0	
Machinability Rating (Free Machining Brass=100)	30	
Max. Operating Temperature	260°C (500°F)	
Stress Relieving Temperature	260°C (500°F)	
Time at Temperature	1 hour per 25mm of section thickness	

#### Comparative Specifications

BS1400 – HTB2\*; ASTM B505, B271 - C86200; SAE J461\*;  
JIS H5121 – CAC303C (HBsC3C)\*; DIN 1709 CuZn34Al2\*

\* Similar but not identical