Product Information Sheet

ISSUE A

ALLOY 642

A W Fraser Alloy 642 is an aluminium silicon bronze conforming to the requirements of UNS C64200 and is available as extruded rod or tube.

Alloy 642 is typically used for valve stems, valve guides, marine hardware, gears, valve bodies and high strength fasteners. It has excellent corrosion resistance and very good forging and hot working properties.

ALLOY 642 - ALUMINIUM SILICON BRONZE SUMMARY OF PROPERTIES

Chemical Composition - percent

Element			Nominal
Copper	Cu	Remainder	
Aluminium	Al	6.3 – 7.6	7.0
Silicon	Si	1.5 – 2.2	2.0
Nickel	Ni	0.25 maximum	
Iron	Fe	0.30 maximum	
Manganese	Mn	0.1 maximum	
Zinc	Zn	0.5 maximum	
Tin	Sn	0.2 maximum	
Lead	Pb	0.05 maximum	

Mechanical Properties [Typical]	Extruded and Drawn
Yield Strength	350 Mpa (51,000 psi)
Ultimate Tensile Strength	628 Mpa (91,000 psi)
Elongation	30%
Typical Hardness	80 Rockwell B
Specific Gravity	7.7
Machinability Rating (Free Machining Brass=100)	60
Hot working	Excellent
Cold working	Poor

Comparative Specifications

ASTM B150 – C94200, *AS 1567 – C64300

* similar but not identical