

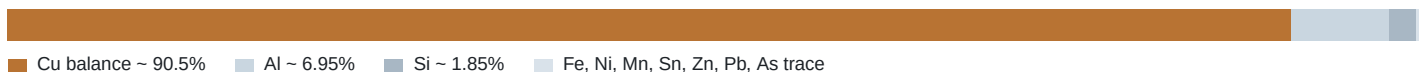
Aluminum-Silicon Bronze C64200 — Material Data Sheet

ASTM F468 / F467 fasteners · ASTM B150 rod and bar · UNS C64200 · Aluminum-silicon bronze (Alloy 642, 7 % Al – 2 % Si)
Free-machining aluminum bronze with silicon for chip control

The screw-machine aluminum bronze — 75 to 110 ksi with 60 percent machinability — for valve stems, pump parts and turned marine fasteners.

TENSILE, F468 FULL SIZE	75–110 ksi	NUT PROOF STRESS, F467	75 ksi hex · 81 heavy hex
YIELD, F468	35 ksi min	SILICON	1.5–2.2 %
HARDNESS, F468	75–95 HRB	MAGNETIC	No

Nominal composition



Midpoints of the specification ranges, for orientation only. Limits are in the table.

Chemical composition — C64200 per ASTM B150 Table 1

Element	Symbol	Min %	Max %
Copper	Cu	balance	—
Aluminum	Al	6.3	7.6
Silicon	Si	1.5	2.2
Iron	Fe	—	0.30
Nickel	Ni	—	0.25
Manganese	Mn	—	0.10
Tin	Sn	—	0.20
Zinc	Zn	—	0.50
Lead	Pb	—	0.05
Arsenic	As	—	0.09

Values per ASTM B150/B150M-19 Table 1 (verified against the specification). Confirm the edition called out on your purchase order with our estimating team.

Physical properties (typical)

DENSITY	0.278 lb/in ³
MAGNETIC	No
SPARKING	Non-sparking

Heat treatment

Not hardenable by heat treatment. Supplied drawn and stress relieved (HR50).

Fastener mechanical properties per ASTM F468 Table 2 (marking F468J)

Nominal diameter (in.)	Hardness	Full-size tensile (ksi)	Full-size yield, min (ksi)	Machined tensile, min (ksi)	Machined yield, min (ksi)	Elongation in 4D, min (%)
All sizes	75–95 HRB	75–110	35	75	35	10

Values per ASTM F468-23 Table 2 (verified against the specification). Confirm the edition called out on your purchase order with our estimating team. Full-size tensile range and yield; machined-specimen minimums in the last three columns.

Nut requirements per ASTM F467 Table 2 (marking F467J)

Nut style	Hardness, min	Proof stress, min (ksi)
Hex and hex flange	75 HRB	75
Heavy hex, large hex flange and thick	75 HRB	81

Values per ASTM F467-24 Table 2 (verified against the specification). Confirm the edition called out on your purchase order with our estimating team.

Bar and rod properties per ASTM B150 Table 2 (C64200 rod and bar, HR50 drawn and stress relieved)

Temper and size (in.)	Tensile strength, min (ksi)	Yield strength at 0.5 % extension, min (ksi)	Elongation, min (%)
HR50 — ½ and under	90	45	9
HR50 — over ½ to 1	85	45	12
HR50 — over 1 to 2	80	42	12
HR50 — over 2 to 3	75	35	15

Values per ASTM B150/B150M-19 Table 2 (verified against the specification). Confirm the edition called out on your purchase order with our estimating team.

Applicable standards

ASTM F468 / F468M	Nonferrous bolts, cap screws and studs (Cu 642, F468J)
ASTM F467 / F467M	Nonferrous nuts (Cu 642, F467J)
ASTM B150 / B150M	Aluminum bronze rod, bar and shapes

Forms we supply in C64200 Al-Si Bronze

- Machined hex bolts, studs and cap screws to F468
- Hex and heavy hex nuts to F467
- Valve stems, pump shafts and screw-machine components
- Certified B150 rod

Typical applications

- Valve stems, seats and bonnet bolting
- Pump components and marine hardware
- Pole-line and utility hardware
- Screw-machine bronze parts needing strength and corrosion resistance
- Non-sparking tools and fasteners