

Free-Cutting Brass C36000 — Material Data Sheet

ASTM B16 rod and bar · UNS C36000 · Free-cutting brass (Alloy 360)

Leaded 61 Cu – 3 Pb – 36 Zn brass, the standard screw-machine alloy

The fastest-machining engineering metal — 3 percent lead brass for turned fittings, terminals, valve parts and volume screw-machine work.

TENSILE, H02 HALF-HARD (½–1 IN.)	55 ksi min	LEAD	2.5–3.0 %
YIELD, H02 (½–1 IN.)	25 ksi min	FASTENER SPEC	Not an F468 alloy — machined parts only
MACHINABILITY	100 (reference alloy)	MAGNETIC	No

Nominal composition



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

Chemical composition — C36000 per ASTM B16 Table 1

Element	Symbol	Min %	Max %
Copper	Cu	60.0	63.0
Lead	Pb	2.5	3.0
Iron	Fe	—	0.35
Zinc	Zn	balance	—

Values per ASTM B16/B16M-19 Table 1 (verified against the specification). Confirm the edition called out on your purchase order with our estimating team.

Physical properties (typical)

DENSITY	0.307 lb/in ³
MAGNETIC	No
SPARKING	Non-sparking

Heat treatment

Not heat treatable. Supplied in the B16 temper ordered; half-hard (H02) is the standard screw-machine temper. For H02 half-hard rod from ½ to 1 in. specified for thread rolling, B16 sets the minimum tensile at 52 ksi.

Bar and rod properties per ASTM B16 Table 2 (rod)

Temper and size (in.)	Tensile strength, min (ksi)	Yield strength at 0.5 % extension, min (ksi)	Elongation, min (%)
O60 soft anneal — 1 and under	48	20	15
H02 half-hard — under ½	57	25	7
H02 half-hard — ½ to 1	55	25	10
H02 half-hard — over 1 to 2	50	20	15
H02 half-hard — over 2 to 4	45	15	20
H04 hard — over 3 D16 to ½	70	35	4
H04 hard — over ½ to ¾	65	30	6

Values per ASTM B16/B16M-19 Table 2 (verified against the specification). Confirm the edition called out on your purchase order with our estimating team.

Applicable standards

ASTM B16 / B16M	Free-cutting brass rod, bar and shapes for use in screw machines
ASTM B249	General requirements for wrought copper alloy rod, bar, shapes and forgings
UNS C36000 / CDA 360	Alloy designation

Forms we supply in C36000 Brass

- Screw-machine fittings, adapters and plugs
- Terminals, bushings and spacers
- Valve stems and bonnets
- Custom brass screws and nuts (non-structural)
- Certified B16 rod, hex and square bar

Typical applications

- Plumbing and gas fittings
- Electrical terminals and connectors
- Instrument and gauge components
- Valve and pump trim
- High-volume screw-machine parts