



# ALLOY

## C37000

### Data Sheet

#### Typical Mechanical Properties\*

Alloy Number	Name	Nominal Chemical Composition	Tensile Strength (KSI)	Yield Strength (KSI)	Elongation %	Rockwell B Hardness	Remarks
UNS C37000	Free Cutting Muntz Metal	Cu: 59.0~62.0% Pb: 0.8~1.5% Fe: 0.15% max Zn: Rem%	52	20	45%	78	General forging and machining applications where lower lead percentages are required

\*As extruded

#### Straightness Tolerances

Round	All Sizes	1.000" in any 10' portion
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#### Shapes and Sizes

Drawn to Size	0.375" to 3.000"
As Extruded	1.000" to 4.000"

#### Drawn Length Tolerances

0.375" to 2.000" (Inclusive)	+/-0.500"
2.000" to 3.000" (Inclusive)	10'~12'lengths
3.000" to 4.000" (Inclusive)	Random Mill Lengths

#### Diameter Tolerances

	Round	Hexagonal
0.375" to 0.500" (Inclusive)	+/- 0.002"	+/-0.010"
0.500" to 1.000" (Inclusive)	+/- 0.003"	+/-0.010"
1.000" to 2.000" (Inclusive)	+/- 0.004"	+/-0.015"
2.000" to 2.500" (Inclusive)	+/- 0.004"	+/-0.025"
2.500" to 3.000" (Inclusive)	+/- 0.005"	+/-0.025"
3.000" to 3.500" (Inclusive)	+/- 0.006"	+/-0.035"
3.500" to 4.000" (Inclusive)	+/- 0.007"	+/-0.060"



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**Machinability:** Alloy C37000 possesses favorable machining characteristics. The machinability rating for C37000 is 70% of free cutting brass (C36000). The recommended tool design, feeds and speeds for machining this material is as follows:

	Speed (sfpm)	Feed (ipr)	Back Rake Angle (degrees)	Clearance Angle (degrees)
Lathe Turning Tools:	300~1,000	0.002~0.015	0~5	6
Drills (118°):	200~400	0.003~0.020	0	12~15
Milling Cutters:	200~300	0.015~0.030	0~3	5~10
Form Tools (1/2°):	200~400	0.001~0.003	7~12	7~12
Taps:	90~150 (lineal)		2~4	

Use maximum speeds and minimum feeds for finish cuts. Light mineral (paraffin) oil or water soluble oil (20/1) should be used as a cutting lubricant and coolant. Sulfurized oils will stain parts and should be avoided.

**Workability:** Alloy C37000 exhibits an excellent capacity for being hot worked. Best results are obtained between 1200°F to 1300°F. This alloy has a poor capacity to be cold worked. If cold working is required, it is recommended that this be followed by stress relieving at 550°F for 1 hour to reduce the possibility of stress corrosion cracking.

**Spec. Equal.:** ASTM B136

**Applications:** C37000 alloy can be used for forging applications requiring excellent corrosion resistance and machinability. Typical applications include valve bodies, plumbing, hardware, fittings and miscellaneous brass forgings. With its lower lead content (in relation to C36000 and C37770 alloys), C37000 can be also be used for other applications including plumbing components and assemblies required to comply with ABI953 requirements.

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