

C69430

Extruded and drawn

Product description	Silicon red brass
Tempers	H04 hard
Solids	3/8" to 2" O.D.
Hex	3/8" to 2" O.D.
Standard lengths	144"

Typical uses

Industrial
Valve stems

Similar or equivalent specification

CDA	ASTM	SAE	AMS	Federal	Military	Other
C69430	B371 B371M					

Chemical composition

Cu (%) ¹	Pb (%)	Zn (%)	Fe (%)	Si (%)	As (%)
80.00-83.00	0.30	Remain	0.20	3.50-4.50	0.03-0.06

Chemical composition according to ASTM B371/B371M-19

¹Cu value includes Ag.

Note: Cu + sum of named elements, 99.5% min. Single values represent maximums.

Machinability

Copper alloy UNS no.	Machinability rating	Density (lb/in ³ at 68 ° F)
C69430	30	0.260

C69430 continued

Mechanical properties

Mechanical properties according to ASTM B371/B371M-19
C69430
H04 hard

Size range up to 1" inclusive

Tensile strength, min		Yield strength, at 0.5% extension under load, min		Elongation, in 4x diameter or thickness of specimen, min	Rockwell "B" hardness	Remarks
ksi	MPa	ksi	MPa	%	typical HRB	
80	550	40	276	15	95	

Size range over 1" to 2" inclusive

Tensile strength, min		Yield strength, at 0.5% extension under load, min		Elongation, in 4x diameter or thickness of specimen, min	Rockwell "B" hardness	Remarks
ksi	MPa	ksi	MPa	%	typical HRB	
75	515	35	241	15	95	

Size range over 2"

Tensile strength, min		Yield strength, at 0.5% extension under load, min		Elongation, in 4x diameter or thickness of specimen, min	Rockwell "B" hardness	Remarks
ksi	MPa	ksi	MPa	%	typical HRB	
65	450	35	241	15	95	

Physical properties

	US customary	Metric
Melting point – liquidus	1685 °F	918 °C
Melting point – solidus	1510 °F	821 °C
Density	0.26 lb/in ³ at 68 °F	7.19 gm/cm ³ at 20 °C
Specific gravity	7.19	7.19
Electrical conductivity	6.2% IACS at 68 °F	0.04 MegaSiemens/cm at 20 °C
Thermal conductivity	15 Btu/sq ft/ft hr/°F at 68 °F	25.98 W/m at 20 °C
Coefficient of thermal expansion 68-572	11.2 · 10 ⁻⁶ per °F (68-572 °F)	19.3 · 10 ⁻⁶ per °C (20-300 °C)
Specific heat capacity	0.09 Btu/lb/°F at 68 °F	377.1 J/kg at 20 °C
Modulus of elasticity in tension	16000 ksi	110310 MPa

Physical properties provided by CDA

C69430 continued

Fabrication properties

Technique	Suitability
Soldering	Excellent
Brazing	Excellent
Oxyacetylene welding	Good
Spot weld	Good
Seam weld	Good
Butt weld	Good
Capacity for being cold worked	Good
Capacity for being hot formed	Excellent
Forgeability rating	80
Machinability rating	30

Fabrication properties provided by CDA

Common fabrication processes

Forging, screw machining

Common fabrication processes provided by CDA