

Lead Brass

Ms58Pb3 (C3604)

Material Designation*

UNS	C38500
EN	CuZn39Pb3 (CW 614 N)
JIS	C3604
GB	HPb58-3

Chemical Composition

Cu	57.0-61.0	%
Pb	1.8-3.7	%
Fe	≤0.5	%
Fe+Sn	≤1.0	%
Zn	Balance	%



Characteristics

It has high strength, corrosion resistance and abrasion resistance, good hot machining properties and weldability, but poor cold machining properties.

Typical Applications

It is used for parts and components requiring precision machining, such as screws, nuts and rotations, shafts, gears, pneumatic tools/connectors, valves, lighters, camera components and watch components.

Physical Properties

Density ^①	8.47	g/cm ³
Electrical conductivity ^①	25	%IACS
Thermal conductivity ^①	120	W/(m·K)
Coefficient of thermal expansion ^②	20.1	10 ⁻⁶ /K
Modulus of elasticity	96.5	GPa

Note^①: Temperature for testing is 20°C.

Note^②: Temperature range for testing is 20-300°C.

Fabrication Properties

Cold workability	Poor
Hot workability	Excellent
Brazing	Good
Resistance welding	Not recommended
Machinability compared with C36000	80%

Ms58Pb3 (C3604)

Mechanical Properties

Diameter	Temper	Tensile Strength	Yield Strength	Elongation	Hardness
mm		MPa min.	MPa	% min.	HV min.
1 ≤ Φ ≤ 20	F	335	--	--	80

Tolerance and Delivery Form

Diameter	Tolerance ^③	Standard coil weights	Coil ID
mm	mm	kg	mm
1.0 < Φ ≤ 1.6	0.03	18-30	260-300
1.6 < Φ ≤ 2.5	0.03	25-40	320-350
2.5 < Φ ≤ 4.0	0.04	30-45	370-400
2.8 < Φ ≤ 6.5	0.04	100-250	400-650
4.0 < Φ ≤ 6.5	0.05	45-60	370-400
6.5 < Φ ≤ 10.0	0.05	200-400	1000-1200
8.0 < Φ ≤ 12.0	0.06	200-400	1200-1400

Note③: The tolerances listed in the table are specified as all plus or all minus. When tolerances are specified as plus and minus (±), half the values given.

*Composition UNS
 Conductivity UNS
 Mechanical Properties For reference only, measured at room temperature, 68°F(20°C).
 Fabrication Properties UNS, Machinability for reference only.
 Other Physical Properties For reference only

The datasheet is for your general information only and is not subject to revision. No claim can be derived from it unless is evidence of intent or gross negligence. The data given is with reference to the relevant standards as ASTM, BS EN, JIS, RWMA, SAE and is for reference only, no warranty can be derived from the data provided. The given info may not replace the customers' own tests.