wieland

eco S34

CuZn34Mn2SiAlNi | Lead-free special brass

Material designation

EN	no EN standard
UNS	C67340

Material properties and typical applications

Eco S34 is a special brass which exhibits a good machinability due to embedded silicides. Furthermore, this alloy has excellent cold-working properties. Therefore it is ideal for components which – apart from being machined – are to be coined, riveted, crimped or flanged. Due to the silicides Eco S34 exhibits a better resistance to stress relaxation compared with standard brass.

This material is lead free as required by the RoHS and ELV.

Chemical composition*

Cu	62 %
Mn	1.5 %
Si	0.5 %
Al	0.5 %
Ni	0.5 %
Fe	0.5 %
Zn	balance
Pb	< 0.1000 %

**Reference values in % by weight*

Physical properties*

Electrical conductivity	MS/m %IACS	11 19
Thermal conductivity	W/(m·K)	75
Thermal expansion coefficient (0–300 °C)	10^{-6}/K	19.6
Density	g/cm³	8.15
Moduls of elasticity	GPa	117

**Reference values at room temperature*

Types of delivery

The BU Extruded Products supplies bars, wire, sections and tubes. Please get in touch with your contact person regarding the available delivery forms, dimensions and tempers.

Fabrication properties

Forming

Machinability (CuZn39Pb3 = 100 %)	70 %
Capacity for being cold worked	good
Capacity for being hot worked	excellent

Surface treatment

Polishing	
mechanical	good
electrolytic	poor
Electroplating	good

Joining

Resistance welding (butt weld)	fair
Inert gas shielded arc welding	fair
Gas welding	fair
Hard soldering	fair
Soft soldering	fair

Heat treatment

Melting range	840–885 °C
Hot working	600–750 °C
Soft annealing	570–680 °C 1–3 h
Thermal stress relieving	300–420 °C 1–3 h

Corrosion resistance

Special brass generally has excellent corrosion resistance due to alloying additions. Eco S34 is characterised by good resistance to organic substances and neutral or alkaline compounds.

Product standards

no EN standard

Trademarks

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Wieland-Werke AG | Graf-Arco-Straße 36 | 89079 Ulm | Germany
info@wieland.com | wieland.com

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