wieland

eco ST3

CuZn29Si1Snp | Lead-free special brass

Material designation

EN	CW729R*
	*filed for standardisation
UNS	

Chemical composition*

Cu	69 %
Pb	max. 0,100%
Si	1.4%
P	0.1 %
Sn	0.2%

**Reference values in % by weight*

Electrical conductivity	MS/m %IACS	7 12
Thermal conductivity	W/(m·K)	
Thermal expansion coefficient (0–300 °C)	10^{-6}/K	
Density	g/cm^3	8.33

**Reference values at room temperature*

Material properties and typical applications

eco ST3 is a lead-free special brass with good corrosion resistance and good machinability. The material is available both in machining quality and in hot forging quality. The mechanical properties of eco ST3 are comparable to those of the well-known materials CW602N, CW511L, CW727R and CW625N. Its hygienic suitability for contact with drinking water in accordance with UBA (German Environment Agency) requirements has been confirmed. The necessary tests have been successfully completed.

The material meets the requirements for dezincification resistance in accordance with ISO 6509.
The material is lead-free in accordance with RoHS and ELV directives.

Types of delivery

The Business Unit Global Extruded & Cast Productssupplies 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	good*

Surface treatment

Polishing mechanical electrolytic	 good fair
Electroplating	good

Corrosion resistance

Brass is generally quite resistant against organic substances as well as neutral or alkaline compounds. After exposure to temperatures > 600 °C a thermal treatment at 520°C / 2-3 h is necessary to ensure optimal dezincification resistance. Stress corrosion cracking should be taken into account, especially in an ammoniacal atmosphere and whilst under mechanical stress.

Joining

Resistance welding (butt weld)	good*
Inert gas shielded arc welding	poor*
Gas welding	poor*
Hard soldering	good*
Soft soldering	excellent

** see section „Corrosion resistance"*

Heat treatment

Melting range	840–880 °C
Hot working	750–800 °C
Soft annealing	500–520 °C ca. 4h
Thermal stress relieving	upon request

Product standards

**filed for standardisation*

Trademarks

wieland ecoline

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