Wieland-Z21

CuZn38Pb2 | C35000 | CW608N

C35000 is a medium leaded brass where the combination of Zn and Pb contents allows excellent machinability and simultaneously moderate cold formability, including knurling and crimping. Therefore, this alloy finds application in watch and clock parts, precision mechanical components, and parts where both forming and machining operations are necessary.

Chemical composition (Reference)	
Cu	60.5 %
Pb	1.9 %
Zn	remainder

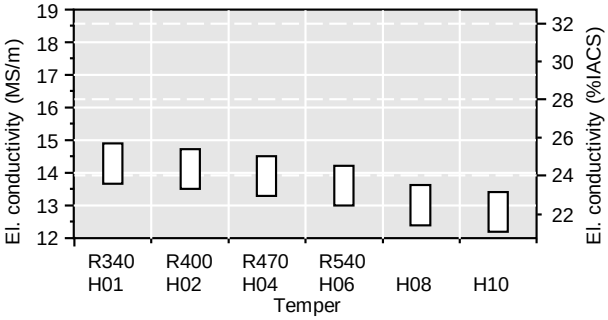
Physical properties (Reference values at room temperature)				
Electrical conductivity	14	MS/m	24	%IACS
Thermal conductivity	109	W/(m·K)	63	Btu·ft/(ft²·h·℉)
Coefficient of electrical resistance*	1.7	10^{-3}/K	0.9	10^{-3}/℉
Coefficient of thermal expansion*	20.4	10^{-6}/K	11.3	10^{-6}/℉
Density	8.44	g/cm³	0.305	lb/in³
Modulus of elasticity	102	GPa	14,800	ksi
Specific heat	0.377	J/(g·K)	0.090	Btu/(lb·℉)
Poisson´s ratio	0.34		0.34	

* Between 0 and 300 ℃

Mechanical properties (values in brackets are for information only)						
Temper	**Tensile strength R_m**		**Yield strength $R_{p0.2}$**		**Elongation A_{50}**	**Hardness HV**
	MPa	**ksi**	**MPa**	**ksi**	**%**	
R340	340-420	49-61	≤ 240	≤ 35	≥ 33	(75-110)
R400	400-480	58-70	≥ 200	≥ 29	≥ 14	(110-140)
R470	470-550	68-80	≥ 390	≥ 57	≥ 5	(140-170)
R540	≥ 540	≥ 78	≥ 490	≥ 71	-	(≥ 165)
H01*	340-405	49-59				
H02*	380-450	55-65				
H04*	470-540	68-78				
H06*	545-615	79-89				
H08*	595-655	86-95				
H10*	620-685	90-99				

* According to ASTM B121

Electrical conductivity



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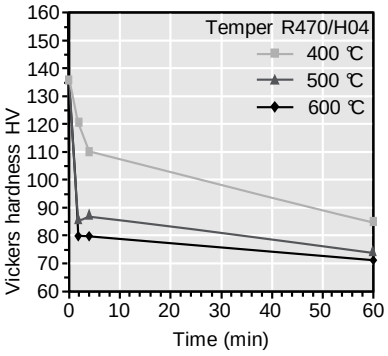
Fatigue strength

The fatigue strength is defined as the maximum bending stress amplitude which a material withstands for 10^7 load cycles under symmetrical alternate load without breaking. It is dependent on the temper tested and is about 1/3 of the tensile strength R_m.

Softening resistance



Vickers hardness after heat treatment (typical values)

Types and formats available

- Standard coils with outside diameters up to 1,400 mm
- Contour-milled strip
- Sheet
- Strip and sheet with protective coating

Dimensions available

- Strip thickness from 0.20 mm
- Strip width from 3 mm, however min. 10 x strip thickness

Wieland-Werke AG | Graf-Arco-Straße 36 | 89079 Ulm | Germany
info@wieland.com | wieland.com
Wieland Rolled Products North America | 4803 Olympia Park Plaza, Suite 3000 | Louisville, Kentucky | USA
infona@wieland.com | wieland-rolledproductsna.com

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